

PREDICTIVE ABILITY OF CAREER MATURITY, ACADEMIC SELF-CONCEPT,
ACHIEVEMENT MOTIVATION, AND FAMILISMO ON CAREER DECISION-MAKING
WITH FIRST-YEAR COLLEGE STUDENTS

A Dissertation

by

BASILIO RODRIGUEZ

B.S., The University of Texas at Brownsville, 2012
M.Ed., The University of Texas at Brownsville, 2015

Submitted in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in

COUNSELOR EDUCATION

Texas A&M University-Corpus Christi
Corpus Christi, Texas

May 2021

© Basilio Rodriguez

All Rights Reserved

May 2021

PREDICTIVE ABILITY OF CAREER MATURITY, ACADEMIC SELF-CONCEPT,
ACHIEVEMENT MOTIVATION, AND FAMILISMO ON CAREER DECISION-MAKING
WITH FIRST-YEAR COLLEGE STUDENTS

A Dissertation

by

BASILIO RODRIGUEZ

This dissertation meets the standards for scope and quality of
Texas A&M University-Corpus Christi and is hereby approved.

Joshua C. Watson, Ph.D.
Chair

Robert L. Smith, Ph.D.
Committee Member

K. Michelle Hunnicutt Hollenbaugh, Ph.D.
Committee Member

Peter Moore, Ph.D.
Graduate Faculty Representative

May 2021

ABSTRACT

Choosing a career can be a daunting task and oftentimes may cause challenges for first-year college students when they enter higher education. Understanding that career indecision is normal within this population, it is essential to learn more about how potential related constructs may be significant to supporting one's career decision-making process. Recognizing the influence of career maturity, academic self-concept, familismo, and achievement motivation may provide insight into how career counselors, faculty, and academic support staff can help first-year college students make appropriate career decisions. The primary purpose of this hierarchical regression analysis is to identify the degree to which career maturity, academic self-concept, achievement motivation, and familismo predict first-year college students' career indecision.

The sample of this study consisted of 91 first-year college students enrolled in a first-year learning communities program (FYLCP) at a Hispanic-serving institution in south Texas. All the participants were provided a demographic questionnaire (see Appendix 5), Career Maturity Inventory-Counseling Form C (Savickas & Porfeli, 2011; see Appendix 6), Academic Self-Concept Scale-Short Form (Reynolds et al., 2012; see Appendix 7), The Pan-Hispanic Familism Scale (Villarreal et al., 2005; see Appendix 8), Achievement Motivation Measure (Smith et al., 2019; see Appendix 9), and Career Decision Scale (Osipow, 1987; see Appendix 10). A hierarchical regression design was used to inspect the statistical significance of each predictor variable to determine if new variables provided support in R^2 (Keith, 2019).

The findings of this three-step hierarchical regression analysis concluded that, in the model of block 1, career maturity and academic self-concept were statistically significant predictors of career indecision. However, achievement motivation in block 2 and familismo in

block 3 did not yield any statistically significant findings. Lastly, it is important to note that the overall model indicated a significant set of predictors.

The findings from this regression analysis can be considered helpful for career counselors, first-year faculty, and administrators who support first-year college students in making career decisions. Implications for further research include using samples that primarily focus on Hispanics, conducting research with first-year students that transition from various educational institutions (e.g., community schools) to university, comparing diverse samples, and understanding the impact of COVID-19 with first-year college students in a predictive study. Overall, the findings will provide insight and contribute to the literature related to these variables.

DEDICATION

For anyone who is unsure about choosing a career path, it is uniquely your journey but oftentimes is a bumpy road with many forks along the way. Given the times of today, this uncertainty can be a challenge, but I know you can do it. I believe in you. Although, you may decide that a chosen career may not be the one for you along your professional journey, find something that speaks to your soul. However, it is important to remember to not pressure yourself in trying to find that “perfect” career that you are passionate about but rather to take a step back and consider other factors. A truth for some is that, although you may not find complete fulfillment in your career; the career you choose may allow you the opportunity to do things outside of your professional life from which to find or enhance fulfillment. No matter who you are and where you are from, you got this!

ACKNOWLEDGEMENTS

These brief acknowledgments are to the people who have had a direct impact in some meaningful way during my journey while pursuing my doctoral degree. It is impossible to thank everyone. There were certainly trials and tribulations during this four-year journey. While I certainly learned a lot about myself during the program, I could have not achieved this alone. I am so grateful for the immense support I was given by the people that I call my family, as well as from cohort 17 and the counselor education faculty.

First and foremost, I want to thank my family who have always supported me while I pursued my doctoral degree. My family includes my beautiful mother Socorro Rodriguez; my lovable and strong father Basilio Rodriguez, Sr.; my hardworking younger sister Celina Rodriguez; my oldest sister and second mom to me Dora Lee Garcia; and lastly, my oldest and humorous brother Robert Juarez. They often asked me, “When are you graduating so we can celebrate?” I tell them that it’s not about the destination but about the journey that led me to graduation. They all have given me unconditional love, support, and encouragement throughout this process, and I don’t know where I would be without them. To my family, “I love you!”

Secondly, I’d like to thank my academic family, Cohort 17. They personally understood the struggles and successes I went through during this time in the doctoral program. Without our wonderful camaraderie, late night studying sessions, and many get-togethers, the way forward would not have been so pleasant. It was a blast being around them! I personally learned something from each individual that I will take with me throughout my professional and personal life. To Ben, Wendy, Raz, Joe, Nora, Ashleigh, Kristyn, Mandy, and Aras, “Thank you for making this the best cohort ever!”

Lastly, I would like to personally thank everyone in the CNEP Department who made my doctoral journey an unforgettable experience. To my dissertation committee, Dr. Watson, thank you for your immeasurable guidance as my doctoral chair and mentor. You have helped me every step of the way and your passion as a counselor educator shines through! Dr. Smith, your humor and perspective on life really gave me a sense as to why people heed your leadership. Thank you for helping me and giving me guidance throughout the program! Dr. Hollenbaugh, I really enjoyed learning from you and receiving your unwavering confidence in helping me to become the best counselor educator I can be! Dr. Moore, thank you for insight during my proposal and defense. To all the other faculty members in the CNEP Department who allowed me to co-teach in your classes, those experiences sharpened my teaching and supervision skills to become a better counselor educator in-training. I enjoyed interacting and helping master-level counseling students with their training. It was a pleasure learning from all of you. To those who taught my doctoral classes, thank you! Lastly, to anyone else involved with the CNEP program that I did not mention, a sincerest thank you to you as well!

TABLE OF CONTENTS

CONTENTS	PAGE
ABSTRACT.....	iv
DEDICATION.....	vi
ACKNOWLEDGEMENTS.....	vii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES	xiv
LIST OF TABLES	xv
CHAPTER I: INTRODUCTION.....	1
Study Constructs	3
Statement of the Problem.....	6
Purpose Statement.....	7
Research Questions	7
Significance of the Study	8
Methodology	9
Sample	10
Instrumentation	10
Data Analysis	11
Limitations	11
Delimitations.....	12

Definition of Terms	12
Organization of Remaining Chapters	13
CHAPTER II: REVIEW OF THE LITERATURE	14
Introduction.....	14
Search Criteria and Processes	16
Theoretical Framework of Career Development	17
Social Cognitive Career Theory	18
The SCCT Interests Model.....	20
The SCCT Choice Model	20
The SCCT Performance Model.....	20
Review of Relevant Constructs.....	23
Career Indecision.....	23
Career Maturity	25
Academic Self-Concept.....	28
Achievement Motivation.....	30
Familismo	32
Summary	34
CHAPTER III: METHODOLOGY	35
Purpose of the Study	35
Identification of Methodology and Rationale	35

Research Questions	36
Sampling Procedure	36
Participant Characteristics	38
Context of the Study	39
Measurement of Constructs	41
Demographic Questionnaire	41
Career Maturity Inventory-Counseling Form C	41
Academic Self-Concept Scale-Short Form	42
Pan-Hispanic Familism Scale	43
Achievement Motivation Measure	43
Career Decision Scale	44
Data Analysis	45
Statistical Power Analysis	45
Preliminary Analyses	45
Primary Analyses	49
Representation of the Data	51
CHAPTER IV: FINDINGS	52
Introduction	52
Demographic Characteristics	52
Participant Flow	53

Preliminary Analyses	56
Data Cleaning	56
Missing Values Check.....	57
Model Assumptions.....	57
Multicollinearity	57
Outliers	58
Normality.....	58
Linearity	58
Primary Analyses	59
Research Question 1	59
Research Question 2.....	61
Research Question 3.....	62
CHAPTER V: DISCUSSION AND CONCLUSION	65
Introduction.....	65
Discussion.....	66
Predictive Hierarchical Model.....	70
Predictive Variables	71
Career Maturity	71
Academic Self-Concept.....	72
Achievement Motivation.....	73

Familismo	74
Implications	75
Career Counselors	76
Academic Support Staff	80
Limitations	83
Suggestions for Future Research	84
Conclusion	86
REFERENCES	87
LIST OF APPENDICES.....	110
Appendix 1: IRB Approval Letter	111
Appendix 2: Information Sheet.....	113
Appendix 3: Recruitment for Instructors	116
Appendix 4: Script for Blackboard.....	118
Appendix 5: Demographic Questionnaire	119
Appendix 6: Career Maturity Inventory-Counseling Form C	120
Appendix 7: Academic Self-Concept Scale-Short Form	123
Appendix 8: Pan-Hispanic Familism Scale	125
Appendix 9: Achievement Motivation Measure.....	126
Appendix 10: Career Decision Scale	127

LIST OF FIGURES

FIGURES	PAGE
Figure 1. Social Cognitive Career Theory.....	21
Figure 2. Participant Flow Chart.....	54
Figure 3. Hierarchical Regression Analysis Flow Chart	63

LIST OF TABLES

TABLES	PAGE
Table 1. Descriptive Statistics for First-Year College Students	55
Table 2. Descriptive Statistics of Scales	61
Table 3. Pearson Correlations among Scales	62
Table 4. Summary of Hierarchical Regression Model.....	64

CHAPTER I: INTRODUCTION

Choosing a career path can be a difficult decision. The career decision process is often stressful because individuals want to make the right decision, but also worry about the potential negative impact of their decisions (Lipshits-Brazilier et al., 2016). Beheshtifar et al. (2012) stated that researchers have found that anxiety frequently leads to negative career thoughts, which are associated to career indecision (Kleiman et al., 2004). Miller and Rottinghaus (2014) also noted that students who experience career indecision are more likely to experience anxiety, which is a major barrier to the career decision-making process. Many undergraduate students in the United States choose to attend their local college or university with no idea of what they want to study, causing a significant amount of career anxiety (Pisarik et al., 2017). Pisarik et al. (2017) reported that students who have career anxiety tend to have little or no career guidance, occupation uncertainty, pressure from parents, and negative relational issues with their peers.

First-year college students who experience anxiety have challenges with forming relationships with others on campus affecting their career decision-making process. First-year students often report lacking a sense of belonging, having problems accessing information or others who could be of help, and experience family pressure and confusion with the registration process. These are common experiences faced by first-year university students who need direction with their career choice (Soiferman, 2017). Johnson et al. (2007) noted that extant research indicates that first-year college students of color have a lower sense of belonging than their White counterparts because of cultural and social experiences. For example, college students of color identified a lower sense of belonging due to a hostile racial climate, living off campus compared to living on campus, and a lack of peer and faculty interactions (Johnson et al., 2007). Slaten and Baskin (2014) reported a statistically significant difference between college

students who have declared a major, in their sense of peer belongingness than those who have not declared a major. Those who have not declared a major have more difficulty making career decisions. Soiferman (2017) noted that many students want more help from academic personnel and believe their career options will be limited without a post-secondary education.

Consequently, it is important for first-year college students to build relationships with others on campus, including academic personnel regarding the career decision-making process.

Ferguson (2007) noted that when students have trouble making a career decision it negatively influences their desire to persist academically. In addition, freshmen students often tend to not persist academically if there is a lack of a college atmosphere conducive to a strong integration of programs, policies, and activities, which provides a balance of academic and social activities (Turner & Thompson, 2014). Consequently, career indecision comes with challenges affecting first-year college students' ability to persist academically rather than dropping out of school due to lack of involvement with the university.

Research findings support the notion that students who have not made a career decision drop out of college at higher rates than those who have decided on a career (Ferguson, 2007). Cole et al. (2020) described first-year students as being concerned about dropping out because of the financial and social issues related to transitioning into higher education. Feldman (2003) noted that continuous problems of career decision-making could lead to "loss of earnings, underemployment, and poor attitudes" (p. 161). For example, students' financial burdens can have a lasting impact on their academic record and can discourage them from re-enrolling in college if they drop out.

Gati, Krausz, and Osipow (1996) have stated that career indecision is not a single issue but a group of issues that can slow down the career decision-making process. In addition,

Gordon and Meyer (2002) stated that it is normal for young university students to have a lack of career decisiveness due to inadequate work experience and knowledge of careers. However, even those students who are confident in their career choice still want confirmation from expert sources. It is therefore important that first-year college students interact with career counselors to help them with their career decision-making process. Overall, first-year college students can experience a variety of career decision-making difficulties including anxiety, lack of a sense of belonging, low academic persistence, and dropping out of college. Thus, career indecision is a major concern that needs further investigation.

Study Constructs

Career Indecision

Lipshits-Braziler et al. (2016) identified career indecision as one of the most common concerns in career counseling, leading to stress and confusion for many individuals. Crites (1974) described career indecision as the “inability of the individual to select or commit to a particular course of action which will eventually lead to preparation for entering a specific occupation” (p. 303). Osipow (1999) described career indecision as an inability to make an occupational choice that usually delays the career decision-making process. Research on reducing career indecision has primarily focused on two areas: identifying causes of career indecision and assessing the level of career indecision (Gati et al., 1996; Osipow, 1999). Individuals with high levels of career indecision often have difficulty making career choices. In addition, a number of constructs have been correlated to career indecision, such as achievement motivation (Ferguson, 2007), career decision self-efficacy (Gianakos, 2001), career commitment (Blustein, 1989) and career choice (Tracey, 2010). Career counselors who are working with individuals perhaps should utilize specific strategies and assess their effect in career indecision

(Osipow, 1999). Creed and Patton (2003) also found that additional factors such as age, gender, and career indecision were predictors of the level of career maturity in adolescents. Migunde et al., (2015) conducted a study with a sample of 369 secondary school students using the Career Decision Scale (Osipow, 1987) and Career Maturity Inventory (Savickas & Porfeli, 2011) and found that career readiness significantly correlated negatively with career indecision, and posited that, based on the age of the individual, career indecision is a reflection of one's career maturity.

Career Maturity

Career maturity refers to an individual's readiness to make a well-informed age-appropriate career choice (King, 1989; Savickas, 1984). Career maturity indicates attitudinal and cognitive readiness to make educational and career choices over time (Super & Overstreet, 1960). Brown and Lent (2012) stated that attitudinal readiness means being active in planning and investigating one's future in a career and cognitive readiness means having the knowledge about careers and how to make reliable career decisions. An individual with high career maturity is capable of making a suitable career choice and has the aptitude for identifying preferences related to work. The construct of career maturity has been conceptualized using Donald Super's Self-Concept Theory (1980) which states that as the self-concept becomes more realistic so too does vocational behavior and choice. Super (1980) noted that individuals choose their occupation to express their self-concept.

Academic Self-Concept

Academic self-concept refers to an individual's knowledge and self-perception in academic situations (Ferla et al., 2009; Reynolds, 1988). Guay, Marsh, and Boivin (2003) noted that academic self-concept is how individuals feel about themselves as student learners. The authors also stated that when individuals grow older, academic self-concept tends to stabilize.

Also, Beheshtifar et al. (2012) noted individuals with a positive self-concept tend to become more successful in the career decision-making process. Essentially, an individual's positive self-concept influences their career decisions. DeDonno and Fagan (2013) conducted a study with a sample of 155 college students at a diverse private university and found that family structure -- parents who praise their children and those involved in family activities had a high academic self-concept. Academic self-concept appears to be an important factor as related to family dynamics.

Familismo

Familismo is a multidimensional construct that refers to a "social pattern whereby individual interests, decisions, and actions are conditioned by a network of relatives thought in many ways to take priority over the individual." (Desmond & Turley, 2009, p.314). The authors stated that social pattern comes through in attitudinal, behavioral, and structural dimensions with Hispanic populations. Steidel and Contreras (2003) noted that attitudinal familismo includes four components: 1) family comes before the individual, 2) strong emotional and physical bonds with family, 3) family reciprocity, and 4) to protect and honor the family name. Sabogal et al. (1987) stated that behavioral familismo is expressed through actions and decisions that influence the family structure, for example, spending time with family. Structural familismo refers to the social network (nuclear and extended) in which behavior occurs and how attitudes have meaning (Valenzuela & Dornbusch, 1994). Wilkins (2009) conducted a study using a sample of 199 Latino adolescents and found that familism and parental involvement related significantly to processes of achievement motivation. It seems that cultural factors such as family support are important for students' need to achieve.

Achievement Motivation

Motivation can manifest in a variety of styles about individuals such as achievement, physiological, intrinsic, and extrinsic influences (Atkinson, 1964; Harackiewicz et al., 1997; Ryan & Deci, 2000). Achievement motivation can be defined as an individual's desire to be accomplished and reach a certain level of excellent standards (Atkinson, 1964). According to Atkinson (1964), achievement motivation is abbreviated as *n* Ach. Smith et al. (2019) described how challenging it has been over the years to ascribe an appropriate definition for achievement motivation. Smith (2015) noted that achievement motivation has been examined in educational and employment settings. McClelland (1961) analyzed the "achievement motive" in the context of an industrial society regarding individuals interested in business, stating that those with high levels of achievement motivation are more likely to internalize standards for themselves about work or study.

Statement of the Problem

Some college students are abandoning higher education because of the absence of career goals (Ferguson, 2007). Ultimately, students are becoming more undecided about their careers with this sense of indecisiveness leading to issues causing students struggle to academically persist, experience anxiety, become discouraged, and drop out of school. Without a degree or education, they struggle finding gainful employment they enjoy and that can help them sustain a satisfying career. For example, students who leave before completing their degrees may never realize their potential and experience significantly lower earnings over their vocational careers (Millea et al., 2018). As a result, their decisions adversely affect the quality of all future occupational choices and finding a satisfying career.

Purpose Statement

The purpose of this quantitative study is to examine the extent to which career maturity, academic self-concept, achievement motivation, and familismo predict career indecision among first-year college students. These predictor variables were examined in order to identify their statistical significance with career indecision. Researchers have suggested a positive relationship between career maturity and academic self-concept (Alam, 2016; Istiana, 2017). Ferguson (2007) found a positive relationship with career decision-making and achievement motivation. In addition, researchers suggest that first-year college students face many difficulties when choosing a career (Cole et al. 2020; Gordan & Meyer, 2002; Osipow, 1987; Soiferman, 2017). However, extant studies have not examined familismo as related to career decision-making among first-year students. The results from this study perhaps can provide insight on how career maturity, academic self-concept, achievement motivation, and familismo predict academic success and goal attainment. Furthermore, results may provide information to college personnel in designing academic and career support systems that help students reach their career goals. The predictor variables in this study were added in blocks in a hierarchical regression analysis to understand the variances with career indecision and to assess the variance for familismo above and beyond what the other predictor variables account for among first-year college students.

Research Questions

The objectives of this predictive quantitative study were to identify to what extent career maturity, academic self-concept, familismo, and, achievement motivation support first-year college students' career indecision.

The primary research questions are:

- a) What are the levels of career maturity, academic self-concept, familismo, and achievement motivation among first-year college students?
- b) What is the relationship among career maturity, academic self-concept, familismo, and achievement motivation?
- c) What is the influence of achievement motivation and familismo in first-year college students' career indecisiveness after controlling for career maturity and academic self-concept?

Significance of the Study

The current quantitative study is significant for two reasons. First, Freedman (2013) noted that many first-year students are likely to make uninformed choices in choosing a major regarding their career path. Thus, first-year student's need help navigating the career decision process due to not being developmentally ready. Choosing a major has serious implications for the majority of students (Freedman, 2013). As a result, there is a potential loss of human resources.

These can include loss of finances and/or time, career anxiety, lack of social and professional support, and the inhibition of the pursuit of a career that identifies one's genuine interests. According to the American College Health Association (2019), in which 24,664 respondents contributed to this national survey, 39.9% of college students said their finances were difficult to handle at some point in the past 12 months. In another national survey, college students reported that the top stressors include the need to pay off loans, the need to find a job after school, the academic challenge of course work, and the cost of education (Trombitas, 2012). Trombitas (2012) also found that first-year students experienced high stress related to the cost of education. Students that drift from major to major or feel undecided about a career may

lose time completing their studies. Also, Miller and Rottenhaus (2014) mentioned that anxiety is correlated to career indecision in college students and that, specifically, career-related anxiety negatively correlates with career-seeking behaviors (Germeijs et al., 2006) and career decision-making in high school students (Saka et al., 2008). Moreover, the lack of social and professional support may also hinder one's ability to pursue a career that they find fulfilling.

Second, searching for work and exploring careers can be one of the most meaningful responsibilities for a person (Kim et al., 2014). The lack of education affects individuals who do not have the technical skills to access the ever-growing labor market. These individuals may feel frustrated because of the lack of career direction and may lose hope not understanding what resources are available for them to succeed. This study is also important as it has the potential to help academic personnel who work with first-year students on the career decision-making process. Likewise, the implications of this research will provide career counselors with information needed to administer specific counseling strategies appropriate for increasing self-efficacy in career decision-making and career decisiveness among first-year college students. Therefore, this study is significant as it addresses the phenomenon of career decision-making, particularly with individuals that are indecisive in their future career plans.

Methodology

I used a hierarchical multiple regression analysis to examine whether career maturity, academic self-concept, familismo, and achievement motivation would predict career indecision. The University College Research Committee and the Institutional Review Board of the affiliated university approved this study.

Sample

The researcher gathered the minimum of 85 college students enrolled in undergraduate-level courses in a southwest Hispanic Serving Institution. The sample included students who classify as freshmen. Lastly, the participants provided demographic information about their age, gender, institution location, ethnicity, student status, working situation, financial aid status, and Covid-19 pandemic concerns.

Instrumentation

Career maturity was measured by the Career Maturity Inventory-Counseling Form C (CMI) (Savickas & Porfeli, 2011), which is a 24-item self-report assessment that measures the combination of attitudes and career competencies.

Academic self-concept was measured by the Academic Self-Concept Scale-Short Form (ASCS-SF) (Reynolds et al., 2012), which is an 18-item self-report assessment that examines the perception of confidence in students' academic capabilities.

Familismo was measured by the Pan-Hispanic Familism Scale (P-HFS) (Villarreal et al., 2005), which is a 5-item instrument designed to measure *familismo*.

Achievement motivation was measured by using the Achievement Motivation Measure (AMM) (Smith et al., 2019), which has 13 items that specifically looks at achievement thoughts and achievement behaviors in individuals.

Career indecision was measured by Osipow's (1987) Career Decision Scale (CDS), which is a 19-item instrument that measures career indecision. W.D. Smith (2015) noted that the CDS is an instrument that assesses career certainty (two items) and career indecision (sixteen) items.

Data Analysis

I conducted a hierarchical regression analysis to address the research questions I established for this study. According to Dimitrov (2009), a hierarchical regression analysis is used when the researcher wants to examine a statistically significant amount of variance in the criterion variable after computing for all other variables. A hierarchical regression analysis seems appropriate for this study as I will attempt to use one criterion variable (career indecision) and four predictor variables (career maturity, academic self-concept, achievement motivation, and familismo) to predict the amount of variance in each established block of variables. The intent was to see if newly added predictor variables would provide a significant amount of variance in this regression model. Block one included career maturity and academic self-concept, block two included achievement motivation, and the last block was familismo. An *a priori* power analysis was used to identify the necessary sample size in this study. Using the G*Power 3.1 statistical power analysis program (Faul et al., 2007), assuming a medium effect size of $f^2 = .15$, alpha level of .05, and power of .80, a minimum sample size of 85 participants would be needed for this study using four predictors.

Limitations

There are two major limitations to this study. It is possible that participants who choose to volunteer will differ from those who did not volunteer due to certain factors, which, in turn, may result in a lowered external validity reported in this study. One of these factors may include an experimenter effect, such as the Hawthorne effect, by which participants may perform differently in the presence of the researcher. Another factor could also be the age of the participant; for example, students who identify as 18-year-old first-year college students may respond differently than 22-year-old first-year college students in this study.

In addition, the second limitation is that the participants' responses with these instruments are self-reported, and it is not evident how truthful and accurate these responses were in terms of the instruments being collected from the researcher. However, I will assume each participant answered to the best of their ability at that moment. It is possible that some students may have felt rushed or felt the need to answer according to what they thought the researcher wanted to know. Other factors may have contributed as well – for example, genuine interest, motivation, and potential extra credit from the instructor.

Delimitations

A hierarchical regression analysis does not imply causation but rather a correlational relationship. This statistical tool can only examine relationships between the criterion and predictor variables. Also, the researcher was restricted to collecting the sample from only two institutions and to the specific instruments used in this quantitative study. The sample that was collected only consisted of first-year college students. The findings in this sample may not be generalizable to a greater population but rather relate specifically to the conditions that were met in this study.

Definition of Terms

Academic Self-Concept: Refers to an individual's knowledge and perceptions about themselves in academic situations (Ferla et al., 2009; Reynolds, 1988).

Achievement Motivation: Refers to an individual's desire to accomplish tasks and reach a certain level of excellent standards (Atkinson, 1964).

Career Decision-Making: Refers to an individual's capacity to choose a career during one's career developmental process and decide what career path is appropriate for them.

Career Decidedness: The status of an individual when choosing a career path and how determined one is to follow that career choice.

Career Indecision: Refers to as an inability to make an occupational choice that usually delays the career decision-making process (Osipow, 1999).

Career Maturity: Refers to an individual's readiness to make a well-informed, age-appropriate career choice (King, 1989; Savickas, 1984).

Familismo: Refers to a "social pattern whereby individual interests, decisions, and actions are conditioned by a network of relatives thought in many ways to take priority over the individual." (Desmond & Turley, 2009, p.314).

First-year College Students: Refers to "a student who is in their first year of college coursework after graduating from high school." (First-Year Learning Communities Program, 2020).

First-Year Learning Community Program: Refers to "first-year college students who are in a cohort that take two or more courses together for the first two semesters." (Texas A&M University-Corpus Christi, 2020).

Organization of Remaining Chapters

The remaining chapters of this dissertation includes Chapter II, which provides a review of the existing literature supporting the current study; Chapter III, which describes the research design and methods employed in this study; Chapter IV which presents the results of the current study; and Chapter V which reviews the findings in light of existing research. The overall discussion also includes considerations for future studies and practical implications for career counselors, faculty, and academic support staff.

CHAPTER II: REVIEW OF THE LITERATURE

Organization of this Chapter

The literature described and reviewed in this chapter will provide a theoretical foundation for this capstone project. To achieve this task, the remainder of this chapter is organized as follows: (a) introduction, (b) identification of the search criteria and processes, (c) theoretical framework of career development, and (d) and review of appropriate theoretical constructs.

Introduction

The experiences of first-year university students are unique, with different aspects contributing to or burdening their overall vocational success as they start their academic journey. Also, it is important to understand how they experience their overall career development in higher education. Those students who have difficulty with the transitioning often have no idea what to do, and that uncertainty leads to a variety of academic and career-related issues.

Conley (2008) described that the transition from high school to higher education can be one of the most difficult transition occurrences one faces as a young person. The transition to higher education can pose several challenges regarding one's career development, such as new academic roles and career expectations, influences from family and friends, knowledge about the world of work, and identifying a chosen a career path.

Freedman (2013) noted that first-year college students often make uninformed career choices that have serious implications such as choosing a major. For example, first-time associate's or bachelor's degree students will change their major at least once within three years of enrollment (NCES, 2017). Ferguson (2007) also mentioned that students who drop out at higher rates are likely to struggle choosing a career. Thirty percent of college freshmen drop out after their first year of college and a college dropout will earn about 35 percent less than a

college student with a bachelor's degree (College Atlas, 2018). Therefore, it seems that college students often struggle finding their preferred major of study, take longer to graduate, and potentially earn less over their lifetimes compared to those who do graduate. There are issues that lead to these overarching concerns for first-year students and therefore constitute a major concern for career counselors, faculty, and other academic support personnel who would seek to increase overall academic and vocational success.

Beggs et al. (2008) stated that undergraduate students are influenced by family members and friends, general subject interest, and the type major rather than by their values and goals in the career decision-making process. The impact of loved ones can play a huge part in what a student decides when choosing a career path. Herren et al. (2011) also noted that family, peers, and teachers are the strongest influences on a student's career decision-making process. Awang, Kutty, and Ahmad (2014) highlighted that it is essential that first-year college students who transition from high school to post-secondary education have support from peers, family, and faculty members. It is certainly crucial that we consider and respect these support systems from the perspective of first-year students. However, it is also important that we provide them with the appropriate campus resources to help them with appropriate career decision-making based on their values and interests, which, if provided, may reduce career indecision.

Typically, first-year college students developmentally lack career decidedness due to the absence of career experiences and knowledge about occupations (Gordon & Meyer, 2002). The authors conducted a study using a sample of 84 prospective university students at a career counseling center and found that 50 percent of those students were predominantly uncertain of a career choice. Gordon and Meyer provided recommendations for utilizing a career-counseling course for first-year students as a way to help them with effective decision-making, knowledge

of the world of work, and implementing career planning. Also, in a study conducted by Soiferman (2017) reported that at a mid-size Western Canadian University with a sample of 713 college students, 263 of those being first-year college students, the participants wanted to feel a stronger sense of belonging and have more access to university resources, additional guidance from academic personnel, and better utilization of university resources. They concluded that it is essential that higher education institutions implement specific resources to help first-year students with the career decision-making process.

Career counselors can provide a variety of services to first-year college students at higher education institutions to help with the challenges related to the career indecision. As mentioned earlier, many individuals experience a variety of issues related to the career development process. Those may include career anxiety (Pisarik et al., 2017), retention (Upcraft et al., 2005), lack of sense of belonging (Soiferman, 2017), fear of dropping out (Cole et al. 2020), underemployment (Feldman, 2003), lack of academic persistence (Turner & Thompson, 2014), stress (Lipshits-Brazilier et al., 2016), and career indecision (Osipow, 1999).

Search Criteria and Processes

A series of extended and systematic searches were applied to identify the appropriate counseling and psychology literature and outcome-based studies that followed both classic and contemporary reasoning about career maturity, academic self-concept, familismo, and achievement motivation on first-year college students' career decision-making over the last 60 years. Specific research sources included: (a) seminal texts, (b) electronic databases from peer-reviewed, journal-specific searches, (c) NCES repositories (NCES, 2017, 2018, 2019, 2021), and (d) consultation with colleagues, licensed supervisors, counselor educators, and my dissertation faculty committee. The search criteria and processes approach have allowed me to find specific

keywords to gather academic material for this dissertation. *First-year college students, four-year university, and freshmen students* were used in identifying the population of interest. Keywords such as *career maturity, academic self-concept, familismo, achievement motivation, and, career indecision* were used to examine specific constructs of interest.

Theoretical Framework of Career Development

The Social Cognitive Career Theory (SCCT) framework is an approach that both introduces and describes the career development process. There are a variety of different career counseling theoretical frameworks that both illustrate career development and the career counseling process. However, this framework was chosen because there is a substantial amount of empirical research that supports its usefulness with the career development process. Specifically, SCCT (Lent et al., 1994, 2000) is a well-known and sound theoretical approach in the career counseling field that includes components of Bandura's theory (e.g., outcome expectations, goals), features of "person input" (e.g., gender, ability) ,and contextual factors that form an individual's academic and career paths (Lent & Brown, 2017). A meta-analytic path analysis conducted by Brown et al. (2008) that included nine meta-analyses from 1983 to 2004 tested the academic performance model with a two-stage approach and found that self-efficacy beliefs are significantly related to academic goals. Also, Brown et al. (2011) performed a meta-analysis using a brief SCCT model of work performance and found it was a good fit when looking at both ability and goals. Further, Sheu et al. (2010) used a meta-analytic path analysis to incorporate data from SCCT's interest and choice premises as they explored Holland's RIASEC themes (conventional, realistic, investigative, artistic, social, and enterprising). The authors note that the results of their investigation were consistent with both the interest/choice model and RIASEC model. These meta-analyses provide theoretical support for the SCCT framework.

Social Cognitive Career Theory

The Social Cognitive Career Theory (SCCT; Lent et al., 1994) is a practical theoretical approach that was initially proposed by (Hackett & Betz, 1981) as a career self-efficacy theory to conceptualize and promote women's career development using Bandura's (1971) general social cognitive theory. Hackett and Betz (1981) applied Bandura's (1971) social cognitive theory to highlight the aspect of self-efficacy needed in making vocational choices. The authors postulated that the women in their study struggled in choosing a career field because of a lack of experience and knowledge of the world of work. Betz and Hackett (1997) noted that, when examining women's low self-efficacy expectation outcomes, it is essential to take into account other career-related factors that serve as barriers in making vocational choices. Thus, this study lead to more empirical research in examining the role of self-efficacy related to career development outcomes, after which it became integrated into a practical theoretical approach in describing career decision-making with a variety other populations.

Lent et al. (1994) developed SCCT as a model to explain the three mechanisms of career development. The authors explain that these three mechanisms include how one establishes career and academic interests, how one makes educational and vocational choices, and how one acquires academic and vocational success and are reflected in the interest model, the choice model, and the performance model, respectively. Within the SCCT framework, the authors focused on self-efficacy beliefs, expected outcome, and goal mechanisms in determining correlations with gender, context, and learning factors.

Self-efficacy beliefs derive from four sources of information: mastery performances, vicarious experiences, social persuasion, and emotional and physiological states (Bandura, 1999; Lent, Brown, & Hackett, 2000). Bandura (1999) described that individuals can achieve mastery

performances in overcoming challenges by taking manageable steps to complete tasks and gain successes; however, failures may undermine this early on in self-development, so acquiring resiliency is important. Vicarious experiences are those in which people observe others like themselves succeed for an amount of time, and then are more likely to believe they can also achieve success as well; but also works when people observe failures to learn from mistakes. Social persuasion refers to the influence of others knowing that one has what it takes to succeed, which allows one to become more persistent and exert more effort (Bandura, 1999). Lastly, emotional and physiological states are aspects of people who can analyze their abilities by reading their tension, anxiety, and depression as a deficiency. They can also examine fatigue, windedness, and body pains. The author noted that if you could increase one's physical and emotional state, it can allow for an individual to increase one's efficacy beliefs and outcome expectancies.

Outcome expectancies refer to the beliefs about the consequences of performing a particular behavior. Individuals are more likely to participate in a task if they believe they will have a positive experience (Bandura, 1999). Personal goals reflect one's motive to participate in certain tasks. In SCCT, this is referred to as choice goals and performance goals (Lent et al., 1994). Individuals who have goals are more likely to organize and guide their own behavior even with personal setbacks (Lent et al., 2000). Lent et al. (1994) described that over an individual's course of development, proximal environmental influences and self-efficacy expectations influence one's interests, choices, and performance. The authors developed a model for each component.

The SCCT Interests Model

Lent et al. (1994) stated that the Interests Model describes how individuals are being directly exposed to an assortment of career-related activities during their development as a child and adolescent. The authors noted that as an individual develops the reinforcement of these interests allows for the development of those interests based on how efficient one is at specific career-related tasks and thus creates expectations of positive outcomes. In essence, individuals are likely to continue participating in these interests based on how confident they feel doing it and that these career-related activities will produce positive outcomes.

The SCCT Choice Model

Lent et al. (1994) noted that the Choice Model is constructed upon the Interests Model in that career-related interests support specific educational and career choice goals. However, the authors describe that choice goals may be further impacted directly by self-efficacy beliefs, outcome expectations, or proximal environmental influences rather than one's interests. Individual choices may also be influenced by family demands, economic needs, and academic limitations, so it is essential to discern an individual's level of support, barriers, and available opportunities. The more support an individual has in their life, the more the interests for that individual will become a more significant factor in terms of pursuing their career choices (Lent et al., 1994).

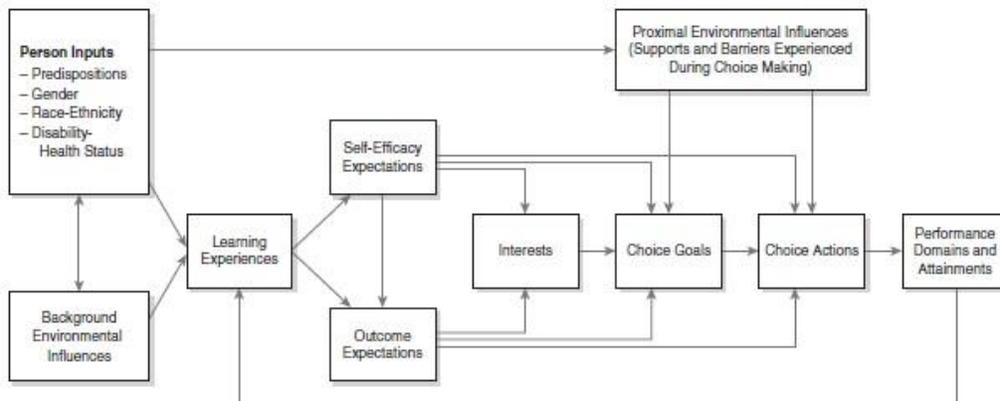
The SCCT Performance Model

Lent et al. (1994) described that the Performance Model focuses on the level of success an individual has in obtaining educational and vocational pursuits and the degree to which they persist when encountering obstacles. The authors note that performance in an individual comprises both motivation and ability. Hence, individuals who apply their abilities have higher

self-efficacy, positive outcome expectancies, and goals. Researchers have used SCCT with a diverse range of populations.

Figure 1

How Career Choices and Interests Develop Over Time



Source: (Lent, Brown, & Hackett, 1994).

For example, the study of SCCT with other populations include African American women (Hackett & Byars, 1996), Mexican American adolescent women (Flores & O’Brien, 2002), African American college students (Dickenson et al., 2017), and first-generation college students in STEM fields (Garriott et al., 2017). Recently, Lent et al. (2019) conducted a path analysis with 365 college students using a social cognitive career self-management model and found that it was a good fit with the factor analytic findings, which account for some significant variance in relation to decisional discomfort and levels of career decidedness. Also, components of SCCT have been studied with related variables regarding this research study.

For example, Byars-Winston and Fouad (2008) used a sample of 227 undergraduate students and found that an SCCT framework supported a model that largely contributed to parental involvement with outcome expectations. The authors noted that parental involvement directly predicted goal intentions through its strong relationship with outcome expectations.

Similarly, one component of familismo is described as having perceived support from family in which the child transitions to adulthood, which may thus lead to positive outcomes such as satisfaction with parents and family cohesion (Stein et al., 2014). In addition, Isik (2013) conducted a study with 263 undergraduate students using the SCCT framework and found that perceived social support from family and friends were positively correlated to vocational outcome expectations while locus of control was negatively associated with vocational outcome expectations. The author noted that students who have perceived support from their families have less career indecision and that locus of control significantly predicts vocational outcomes. SCCT and familismo are both contextual by nature and it is this that may explain how one's career development is influenced over time.

In addition, Stevenson and Lochbaum (2008) conducted a main study with 386 participants and found, using a revised socio-cognitive model of achievement motivation, significantly predicted levels of intrinsic motivation and performance attainment related to exercise. Smith et al. (2019) noted that locus of control and achievement motivation both have similarities. The authors found that higher achievement motivation scores correlated to a higher internal locus of control within students, and thus those who rely on their inner resources will have higher levels of achievement motivation. There seems to be some connection between SCCT and achievement motivation.

SCCT provides a theoretical framework to help examine the career development process with young adults from a socio-cognitive viewpoint which emphasizes career behavior, personal and contextual factors, and interests and values that predict vocational outcomes. In addition, researchers have pointed out how social factors like culture and ethnic identity can influence outcome expectations, career self-efficacy, and career decision-making.

Review of Relevant Constructs

Career Indecision

Career indecision refers to refers to as an inability to make an occupational choice that usually delays the career decision-making process (Osipow, 1999). Xu and Bhang (2019) provided an inclusive definition of career indecision “as a state of being undecided about one’s educational, occupational, and career-related path” (p. 3). Initially, career indecision was conceptualized as a dichotomous construct (decided or undecided) before the 1960s (Santos, Ferreira, & Goncalves, 2014). Also, the authors note that, since the 1970s, researchers had started viewing career indecision as either career indecisiveness or career indecision. Furthermore, Xu and Bhang (2019) mentioned that career indecision historically adopts a linear conceptualization of career decision-making and illustrates a barrier to career development. However, in recent years career indecision has been viewed in a more positive way. For example, Krieshok et al. (2009) described career indecision as a state of adapting to change with the uncertainty of making vocational choices.

Career indecision is a common developmental experience among high school students transitioning to higher education or for first-year college students. Furthermore, individuals with career indecision may have more issues if it becomes chronic over time. Osipow et al. (1976) described individuals with career indecision as not being comfortable with implementing one’s career choice and not being decided on a specific major of study. There are two career indecision types, career indecisiveness or having career indecision (Osipow, 1999). The author notes that career indecisiveness is a pervasive, negative personality trait where individuals have difficulty making career decisions across several domains. Career indecision is a state of normal human

development where one assesses possible career options and experiences challenges along the way.

Researchers have explored career indecision with undergraduate college students for the past few decades. Morgan and Ness (2003) reported that most undergraduate students have some type of career indecision and/or career anxiety which can ultimately impede career decision-making (Osipow, 1999; Saka & Gati, 2007). As mentioned earlier, at least 50 percent of undergraduate students typically report having some type of career indecision (Gordan & Meyer, 2002; Morgan & Ness, 2003). Thus, it is critical we identify and mitigate these potential career development issues as soon as possible. It is important to note that career indecision can reflect upon other career decision-making issues, such as promotions, job transitions, relocations, job hunting, and unemployment while in the career decision process (Osipow, 1999). Gati, Krausz, and Osipow (1996) analyzed three categories of career-decision-making difficulties that lead to lack of readiness in the career-decision process. The authors report that these include a lack of motivation to start a career, general indecisiveness, and dysfunctional beliefs in the career-decision-making process (e.g., an expert will choose my career, etc.). When working with college students, it is critical to understand their level of career indecision and where that career indecision is coming from (Xu & Bhang, 2019).

Career indecision can be a complicated issue that may seem simple on the surface. Nauta (2012) conducted a confirmatory factor analysis to test the fit of Kelly and Lee's (2002) six-factor model of career indecision. The author used a diverse sample of 188 college students and found only 5 domains fit. These domains include not being aware of occupational information to make informed career choices, the need for career information, trait indecision, choice anxiety, and disagreement of value conflicts with loved ones.

In recent years especially, it seems that career indecision is viewed from a multidimensional perspective rather than a dichotomous one (i.e., undecided vs decided). Savickas (2010) stated that individuals who show career indecision have a lack of career control needed to make appropriate career decisions. A study conducted by Daniels et al., (2011) included a sample of 844 undergraduates at a Canadian research-intensive university, which found that perceived control predicted lower scores of career anxiety and career indecision. Essentially, the authors stated that students who felt they had some level of control were less likely to experience career indecision, and thus more likely to take an active role in seeking out career information, counseling, and to engage in job seeking. Career indecision is a common central theme that college students face while in undergraduate school and may reemerge or be unresolved in later career stages (Daniels et al., 2011). Likewise, researchers have also mentioned that career indecision is a career development construct closely related to career maturity (Levinson et al., 1998; Prideaux & Creed, 2001).

Career Maturity

Career maturity refers to the individual's readiness to make a well-informed, age-appropriate career choice (King, 1989; Savickas, 1984). Career maturity was originally referred to as "vocational maturity." Super (1955) first introduced the construct of vocational maturity in the counseling psychology literature. As a construct, career maturity is one of the most researched outcome measurements in career development and counseling in the past 50 years (Brown & Lent, 2012; Cook, 1991; Spokane, 1991). An individual who has high career maturity has the capability to recognize specific occupational-related preferences and complete tasks that allow them to achieve their goals. Prideaux and Creed (2001) noted that counselors examine career maturity to determine attitudes towards compromise, involvement, orientation,

independence, and decidedness. The authors also note that it is important to assess for knowledge regarding occupational information, goal selection, planning and problem solving, and self-appraisal. Busacca and Taber (2002) stated career maturity is essential for individuals in making informed and realistic vocational choices and thus, the individual with high career maturity is likely to combine a vocation that matches their self-concept.

Researchers have found that career maturity has had significant relationships associated with other career counseling and development constructs, such as career decision self-efficacy (Emerson, 2017), career preference (Salami, 1997), self-concept (Onivehn, 1991), work salience (Naidoo et al., 1998; Super & Nevill, 1984), and parental attachment (Lee & Hughey, 2001). Brown and Krane (2000) found large effect sizes in association with five critical factors when working with individuals on career maturity in career interventions. The authors noted that workbooks, counselor feedback, modeling, world of work information, and creating support for the individuals help in the career decision-making process.

Super and Overstreet (1960) noted that career maturity includes both attitudinal and cognitive readiness to make academic and occupational choices that develop over one's lifespan. Crites (1976) also stated that career maturity is separated into two different components: attitudinal and cognitive. The attitudinal dimension refers to individuals' attitudes and feelings about making an occupational choice and deciding if one should pursue a career choice as one enters the job market. The cognitive dimension refers to the individuals' awareness of a need to make an occupational choice and the recognition of the vocational preferences with regard to the world of work. Crites (1981) proposed that the most crucial career development phase for individuals is the establishment stage (ages 16 to 25 years) in predicting future vocational success in the world of work.

Furthermore, McCaffrey et al., (1984) found that among the undergraduate college student population it upper-level students have higher career maturity than lower-level students. This is an important distinction as this research study is focused on first-year college students. Also, Van Haveren (2000) stated that junior and senior undergraduate students were more certain in choosing a career compared to freshmen and sophomores. Langley et al. (1992) established five different dimensions for individuals that lead to career maturity in career development. The authors note that it is important for individuals to gather career-related information to improve one's self-knowledge and insight, acquire decision-making skills, integrate knowledge into the world of work, and implement knowledge in career planning and decision-making. Naidoo et al., (1998) found that career maturity has a positive correlation to intellectual level. Creed et al., (2006) stated that career maturity is important in understanding career behavior in individuals. Savickas and Porfeli (2011) based on scores found in their study, which consisted of 453 students attending grades 9-12 in a Midwestern urban high school that career counselors may help meet the need of diverse individuals by using specific interventions. Naidoo (1998) reported that counselors working with minority groups should be careful at interpreting low scores of career maturity as it may reflect perceived social barriers and restricted access to the job market. Career maturity can also be linked with other variables discussed in this research study.

For example, career maturity and achievement motivation both look at aspects of responsibility within an individual. For example, the CMI examines career control which focuses on responsibility for creating a career through decisive actions using a deliberate approach to performing career tasks, while the AMM focuses on personal responsibility relating to one's success and failures (Savickas & Porfeli, 2011; Smith et al., 2019). Also, the Career Maturity Consultation Sub Scale suggests looking at a client's cultural identity and conception of career

choice, context, and dynamics in the relationship with family, which is similar to familismo in which one looks at the interpersonal relationships concerning family members. (Savickas & Porfeli, 2011; Villarreal et al., 2005). Career maturity and self-concept are constructs that are viewed through developmental stages as one gains experience over time as career development is a lifelong process. When an individual increases in maturity level, they tend to effectively implement their self-concepts in occupational roles, and thus indicate characteristics which affect career choices (Savickas & Porfeli 2011). Alam (2016) also noted that stakeholders in school systems should help develop career maturity in students as it can impact academic self-concept.

Academic Self-Concept

Academic self-concept refers to an individual's knowledge and perceptions about themselves in academic situations (Ferla et al., 2009; Reynolds, 1988). Marsh and Craven (1997) stated that academic self-concept is an evaluation of one's self-perception that is created during life experience with one's academic environment. As a construct, researchers have extensively investigated academic self-concept since the 1970s. Brookover et al. (1962) investigated self-concept in an academic setting using a longitudinal research program with over 1,000 high school students in a medium-sized school system. Reynolds et al. (1980) stated that an individual's academic self-concept is reliant on environmental and situational factors. In the initial study using responses from 427 college students, they were able to construct the Academic Self-Concept Scale down from 59 to 40 items as a way to assess academic self-concept. Shavelson et al. (1976) devised a model that proclaimed self-concept was a multidimensional hierarchical construct that could be separated into both non-academic and academic self-concepts. Marsh and Shavelson (1985) found that while their research did support Shavelson's et al. (1976) hierarchical model, their research was more nuanced as there was more than one

higher-order factor. Therefore, Marsh et al. (1988) conducted two different studies to revise the model so as to include both verbal and mathematical academic self-concepts. The authors used hierarchical confirmatory factor analysis to test the revision across North American responses to the Self Description Questionnaire III along with two other assessments. Reynolds (1988) created a measurement of academic self-concept as a way to assess for the academic facet of general self-concept with 589 undergraduate college students. The author found similar results in Shavelson's (1976) study in that there is support for a multidimensional hierarchical view of academic self-concept and similarly noted that participants with higher internal locus of control had higher academic self-concept, which was consistent with other previous studies (Reynolds, 1988).

Academic self-concept is a construct that predicts students' grades, college attendance, and educational attainment (Guay, Larose, & Boivin, 2004; House, 1993). House (1993) found, using a sample of 241 African American and Caucasian underprepared adolescent students, that those with higher academic self-concept had higher math grades. Guay et al. (2004) stated that academic self-concept has been extensively studied with academic achievement. The authors found, using a longitudinal study with three cohorts of 465 French Canadian children from ten elementary schools in Quebec City, that academic self-concept predicted educational attainment level ten years later. Matovu (2014) conducted a study of 280 college students at a public university in Malaysia and found that measuring academic self-concept was appropriate across student gender and grade levels. He concluded that instructors should be aware that encouraging student's academic confidence and effort would have a positive impact on students' academic self-concept. Byars-Winston et al. (2010) showed that outcome expectations and self-concept beliefs are significant moderators of an individual's academic and career choice behaviors. Also,

students who had higher levels of academic self-concept, as compared to students with lower levels, tend to value their own abilities, accept challenges, take on new risks and goals, and have a higher motivation to complete challenging tasks (Bong & Skaalvik, 2003; Pintrich et al., 1994). In contrast, students with lower levels of self-concept had less cognitive and motivational resources than those with positive self-concept (Nunez et al., 1998).

When it comes to instrument construction, in relation to academic self-concept and achievement motivation, both the ASCS-SF and AMM instruments use self-control scales (Brief Self-Control Scale and the Rotter Internal-External Locus of Control Scale) to provide reliable and valid results (Reynolds et al. 2012; Smith et al., 2019).

Achievement Motivation

Smith (2011) stated that McClelland and his associates at Harvard University had studied achievement motivation for over two decades since the 1950s. The author also stated that McClelland and other researchers have identified attributes of high achieving individuals that demonstrated a group of similar behaviors and thoughts. Hooja and Shaktawat (2017) pointed out that the word motive is derived from the Latin word *movere*, meaning “to move.” Mohammadnia et al. (2017) noted that achievement motivation is one of the essential motivations of human development and a fundamental requirement for learning and teaching. Atkinson (1957) proposed the theory of achievement motivation as a way “to explain how the motive to achieve and the motive to avoid failure influence behavior in situations where performance is evaluated against some standard of excellence” (pg. 371). McClelland (1961) defined achievement motivation (*n Ach*) as an individual’s consistent pursuit to acquire excellence. The author also mentions that the unique characteristics of high achievers include the need for achievement, need for affiliation, and need for power. McClelland (1965) described

how individuals who have high achievement motivation are more likely to express their behavior and personality traits with others. Atkinson and Feather (1966) described how the theory of achievement motivation highlights the significance of extrinsic sources of motivation to engage in activity; however, it also highlights the resolution of conflict between two opposing tendencies that is fundamental in any achievement orientation activity. The authors describe a tendency as “the product of motive, expectancy, and incentive” (pg. 328). They posit that the two elements of a tendency are to achieve success (T_s) and a tendency to avoid failure (T_f). Hooja and Shaktawat (2017) also described achievement motivation as using the energy to overcome specific challenges and to be persistent in conquering goals.

Smith et al (2019) noted that the AMM reflects measures of both cognitive and behavioral achievement motivation. From the cognitive factor, achievement thoughts are shown by deeply wanting to achieve something, planned action towards excellence, expecting success and having good feelings after achieving it, worry about failure before and after it is achieved, world and personal obstacles interfering with success, and seeking help to succeed. In addition, achievement behaviors of high achievement individuals is evidenced by their taking more calculated risks, understanding what they are doing, seeking constructive feedback, testing one’s personal responsibility to accomplish goals, and approaching new situations with intentionality.

Berger and Milem (1999) proposed that if college students are decided on a career, they would be more likely to persist and succeed academically. Professionals can use the AMM to predict performance among college students and help them achieve their academic goals and increase overall performance (Smith et al., 2019). Additionally, Trumball and Rothstein-Fisch (2011) described how achievement motivation is influenced by culture and that the motives for students to achieve might be uniquely different depending upon their cultural background. The

authors found that cultural factors do not determine achievement motivation but that bilingual teachers who use culturally responsive motivation strategies may promote higher achievement. Ibañez et al., (2004) also noted that achievement motivation was positively related to parental involvement, academic competence, and school belonging. In their exploratory study with a sample of 129 immigrant and U.S- born Latino adolescents, they found that cultural factors can play a role in succeeding academically. In relation to this study, a cultural factor that will be discussed is familismo.

Familismo

Families are a universal feature in human social functioning, whereupon family members take care of each other, contribute to resources, have children, and participate in joint activities (Anastasiu, 2012). Familism was characterized as a broad concept indicating “strong in-group feelings, emphasis on family goals, common property, mutual support, and the desire to pursue the perpetuation of the family” (Bardis, 1959a, p. 340). One of the earliest developments of this cultural construct began in the late 1950s in which a 16-item Likert Scale was created to measure familism from a range of 0-64 (Bardis, 1959a). Later, the author measured familism among citizens across the United States (Bardis, 1959b). With regard specifically to Hispanics, there have been 40 years of research conducted on the cultural construct of familismo, which is one of the main cultural values represented in Latino populations (Knight et al., 2010).

Researchers first introduced the cultural construct of familism for adult populations. Recently, the research has focused more on adolescent populations in predicting psychosocial and educational outcomes in Latino youth (Stein et al., 2014). Familismo refers to individuals who have a strong identity and attachment to nuclear and extended family members (Sabogal et al, 1987). Familismo was constructed to describe observed differences in American families of

Latino and European cultural backgrounds (Keefe et al., 1979; Sabogal et al., 1987). Familism also consists of social norms, structure, personal attitudes, and behaviors (Keefe et al., 1979; Sabogal et al., 1987). Researchers measure familismo through self-report instruments that reflect the extent to which an individual supports or is supported by specific family factors.

Familismo is a multidimensional construct that refers to a “social pattern whereby individual interests, decisions, and actions are conditioned by a network of relatives thought in many ways to take priority over the individual.” (Desmond & Turley, 2009, p.314). Researchers have divided familismo into two distinct components, attitudinal and behavioral familismo. The attitudinal factors include family obligations, family reciprocity, initial emotional support, valuing interconnectedness among family members, making important decisions while incorporating family members into the decisions, maintaining family honor, and readily putting family choices before the individual choices (Steidel & Contreras, 2003; Sabogal et al., 1987). Steidel and Contreras (2003) described putting family choices before the individual as sacrificing one’s needs and desires when they hinder the family dynamic. The authors then describe family interconnectedness as keeping a strong emotional and physical bond with family even though one may be independent. Family reciprocity is providing support to family in times of need, and family honor refers to when individuals protect and actively defend the family name. The behavioral factors include behaviors that reflect these attitudes within the family dynamic (Calzada et al., 2013; Villarreal et al., 2005). These behaviors can be expressed via immigration support, financial support, daily communal activities, joint living, and shared childrearing (Calzada et al., 2013; Sabogal et al., 1987). The authors mention that research studies have focused more on the attitudinal components of familismo and less attention on familismo’s behavioral components. Besides, Calzada et al. (2013) noted that few research studies have

extensively examined the behavioral domain of familismo. It seems that career indecision can relate to the behavioral aspect of familismo; for example, the pressures of assisting parents in work may interfere with alternate positive opportunities, such as in the case of a college student who is trying to pursue an education but must leave to help out the family who is struggling financially (Hernandez & Bamaca-Colbert, 2016).

Summary

Where we currently stand on these variables and the theoretical model, it is important to understand the significance of an individual's career development process with first-year college students. Recognizing the influence of career maturity, academic self-concept, achievement motivation, and familismo may prepare those who work with first-year college students to provide the necessary career strategies in helping them succeed in higher education.

CHAPTER III: METHODOLOGY

Purpose of the Study

The purpose of this study is to examine the relationship between career maturity, academic self-concept, familismo, achievement motivation, and career indecision among first-year college students. The results of this study will add to the literature regarding the career development process among this population.

Identification of Methodology and Rationale

Within multiple regression analysis, there are three basic approaches for introducing predictor variables; simultaneous, stepwise, and hierarchical (Heppner et al., 2008). A hierarchical regression analysis will be computed to determine how career maturity, academic self-concept, familismo, and achievement motivation predict career indecision. In a hierarchical regression, the researcher specifies the order of entry for each of the predictor variables based on some predetermined theoretical or statistical rationale (Heppner et al., 2008; Hoyt et al., 2006). The hierarchical regression analysis is the most appropriate design to use when there is literature that supports a robust relationship between the criterion variables and the predictor variable selected for inclusion in a study. In my study, the literature supports relationships between and among the variables described in Chapter 2. Because of these relationships, I chose to use a hierarchical regression because it will allow me to judge the statistical significance of each predictor variable and will determine if the newly added variables in fact show improvement in R^2 (Keith, 2019).

If entered in the correct causal order, I can determine the explained variances in the criterion variable in my study. To run a hierarchical regression, I will use IBM SPSS Statistics to build a regression model where I add new variables in sequential steps based on my review and

understanding of the literature. In so doing, I will add variables, run ANOVAs to determine R^2 and coefficients, and lastly calculate the increased R^2 percentages.

Research Questions

Three related research questions will be examined in this predictive study, to identify the degree to which career maturity, academic self-concept, achievement motivation, and familismo support first-year college students' career indecision.

- a) What are the levels of career maturity, academic self-concept, achievement motivation, and familismo among first-year college students?
- b) What are the relationships among career maturity, academic self-concept, achievement motivation, and familismo for first-year college students?
- c) What is the influence of achievement motivation and familismo in first-year college students' career indeciveness after controlling for career maturity and academic self-concept?

Sampling Procedure

The sample will consist of college students enrolled in first-year courses at a Hispanic-serving institution. Participants will provide information on age, gender, ethnicity, student status, working situation, financial aid status, and Covid-19 pandemic concerns.

I aimed to recruit a minimum of 85 first-year college students for this study. First, I reached out to the university's First-Year Learning Communities Program's (FYCLP) seminar coordinator by inquiring about the process of gaining approval to collect a sample of first-year college students. I was notified that to gain access I would be required to submit a proposal detailing my rationale for choosing to use first-year college students in this study, describing the protocol for data collection, and outlining the benefit to the FYCLP. After preparing these

documents, I submitted copies of the recruitment email for instructors, information sheet, and proposal to the FYCLP seminar coordinator so that they could share it with the University College review board for a vote to proceed with my study. The University college review board consisted of FYCLP faculty which were given a week to respond and then I would be notified about their decision. Once I presented my study and received permission to engage in this research from the University college review board and the university IRB, the FYLCP seminar coordinator assisted in the recruitment of FYLCP instructors by posting the recruitment flyer that I developed for this study on their faculty seminar listserv. The FYCLP seminar coordinator recommended I also write a Blackboard script for faculty to increase the likelihood of them sharing the survey opportunity with their students. The FYCLP seminar coordinator posted the Blackboard script which contained the Qualtrics link to the faculty seminar listserv and encouraged any faculty members to contact me if they had any further questions. I used a non-probability sampling procedure to gather sample participants. Balkin and Kleist (2017) noted that nonprobability sampling is the process of recruiting and selecting participants that are accessible to the researcher. In this case, I used the convenience sampling method, in which first-year seminar instructors from different large first-year classrooms at the FYLCP reached out for students' participation. I collected a sample of participants online through Qualtrics. Qualtrics is an online survey tool platform that accessed using my institutional resources. I shared the Qualtrics link with the instructors that included the same information sheet, demographic questionnaire, and surveys posted on their respective Blackboard platforms for students to access.

I obtained consent on the first question by including the information sheet for participants to read. The participants had the option to select yes at the end. By selecting yes, they indicated

that they had read the information sheet, understood it, and certified that they were 18 years of age or older. They could not continue unless they selected the yes option. There was no time limit to complete this online and I deleted IP addresses for anonymity. I also aggregated the information collected through Qualtrics onto an SPSS file. The information was stored in a double password-protected data storage environment (WD Unlocker), using an external hard-drive device in a locked filing cabinet at the researcher's home in a locked bedroom closet. Students who consented to participate responded to (a) a demographic questionnaire, (b) the Career Maturity Inventory, (c) the Academic Self-Concept Scale-Short Form, (d) the Pan-Hispanic Familism Scale, (e) the Achievement Motivation Measure, and (f) the Career Decision Scale.

Participant Characteristics

Study participants identified themselves as undergraduate college students attending a Hispanic-serving institution. To assist in computing descriptive statistics, I asked participants to identify their age; their gender as either male or female; and their ethnicity as African American, White non-Hispanic, Native American or Pacific Islander, Hispanic or Latino, Asian American, Biracial, or Other. I also asked students to identify their student status based on first generation (first person in your family to attend college), second generation (parents attended college), and third generation (grandparents attended college). I also asked students to identify their work situation based on not being employed, on-campus employment, off-campus employment (30+ hours/week), or off-campus employment (less than 30+ hours/week). Information on students' financial aid status was based on whether they received a Pell grant, student loan, or scholarship to finance their education. Lastly, I asked students about Covid-19 pandemic concerns with either a yes or no.

Context of the Study

The primary setting for the study was a Hispanic-serving institution in South Texas located near the Gulf of Mexico. As noted on the university's website, this first-choice prestigious institution "enrolls approximately 12,000 students" each academic year. (TAMU-CC, 2019, para. 5). Specifically, sample students were recruited from the university's First-Year Learning Community Program (FYLCP). In 1994, TAMU-CC initiated the FYLCP to support all incoming first-year students for their first two semesters of college (TAMU-CC, 2019). The FYLCP is a nationally recognized program that helps high school students make a rewarding transition from high school to higher education in their academic and career pursuits. What makes this program unique is that first-year students are enrolled in specific classes partnered in dyads, triads, or tetrads to form a learning community. A learning community may have 50 to 100 students. These groups of students take the same classes with the same students and teachers so that they are able to develop connections and learn together (TAMU-CC, 2020). The First-Year Seminar classes (UCCP 1101/1102) generally consists of two planned activities, small and large group discussions, writing-to-learn activities, and literacy activities. They benefit first-year students by providing them opportunities to develop their academic skills, engage in college life, increase levels of satisfaction with college, earn higher grades, and to complete courses to graduate in the future. Essentially, through the program first-year students establish the crucial transition skills to achieve success after their first year of college. Ultimately, collecting a sample of first-year college students from an HSI will allow the researcher to determine if there is a significant relationship between the "experimental" predictor variables of achievement motivation in model 2 and familismo, a cultural factor in model 3, with career indecision in the hierarchical regression study. Researchers have studied career indecision, career maturity,

academic-self-concept, and achievement motivation with first-year college students or freshmen. A significant segment of the sample participants were Hispanic, which is appropriate when studying familismo.

As mentioned earlier, Sabogal et al. (1987) noted that familismo was constructed for Latino and European (i.e., Spanish) populations. Another cultural component connected to familismo that needs consideration is the idea of collectivism which is relatable to a diverse group of people. Familismo is a cultural variable that focuses specifically on the Hispanic population in this study; however, this does not mean that this cannot relate to other diverse populations. For example, Schwartz (2007) used a diverse sample of 318 Hispanic, non-Hispanic White, and non-Hispanic Black young adults relating to familism, interdependence, and collectivism. The author noted how the construct of familism may be applicable to other diverse ethnic groups. Although collectivism is similar to familism, it is defined as a cultural construct that reflects on the practice of group priority over the individual and describes the population in terms of their social relationships (Schwartz, 2009). Campos et al. (2014) also noted that familism can overlap culturally rooted family values and that closeness and support in family relationships are common across populations. Familism and collectivism are both cultural constructs that share similar meanings with regard to family values, while collectivism expands on the differences among family, peers, and society. Although data will not be collected on collectivistic ideals, it is safe to say that familismo is a construct that a diverse group of people may ascribe to in some ways. Because of the geographic area in which sample will be collected, there is a good likelihood that there will be a meaningful segment of non-Hispanic participants who may espouse a collectivistic mentality.

Measurement of Constructs

All students will receive a bundle that included a demographic questionnaire (see Appendix 5), the Career Maturity Inventory (Savickas & Porfeli, 2011; see Appendix 6), the Academic Self-Concept Scale-Short Form (Reynolds et al., 2012; see Appendix 7), the Pan-Hispanic Familism Scale (Villarreal et al., 2005; see Appendix 8), the Achievement Motivation Measure (Smith et al., 2019; see Appendix 9), and the Career Decision Scale (Osipow, 1987; see Appendix 10).

Demographic Questionnaire. The demographic information collected will be first-year students' age, gender, institution location, ethnicity, student status, working situation, and financial aid status, and Covid-19 pandemic concerns. No personally identifying information will be collected and all data will be reported in aggregate form.

Career Maturity Inventory-Counseling Form C. The Career Maturity Inventory-Counseling Form C (CMI-Form C; Savickas & Porfeli, 2011) is used to measure students' readiness to make a career choice. The CMI-Counseling Form C, revised three times in the last 50 years, is a 24-item assessment divided into four subscales: Confidence, Concern, Curiosity, and Consultation, and uses the full-scale score to represent the career maturity construct in this study. The CMI-Counseling Form C gives each participant five scores: a total score of career choice readiness; three scale scores representing the dimensions of confidence, concern, and curiosity; and a single score describing the relational style of developing occupational preferences. A dichotomous format (*agree/disagree*) is used to measure the career maturity construct, with higher scores indicating greater career maturity (Savickas & Porfeli, 2011). The possible ranges of the Concern, Curiosity, and Confidence Scales are represented from zero to six points, where participants who select more disagree items (one point) will reflect a higher

positive dimension in that area. Savickas and Porfeli detail how the consultation score is interpreted by looking at the client's cultural identity, cultural context, and dynamics in the counseling relationship by utilizing the Cultural Formulation Model. Sample items contained in the 24-item assessment include "There is no point on deciding on a job when the future is so uncertain" and "I keep changing my occupational choice." Savickas and Porfeli (2011) reported the coefficient alphas for the total score at .86 indicate good reliability using a sample of 453 students attending grades 9-12 in a Midwestern urban high school.

Academic Self-Concept Scale-Short Form. The Academic Self-Concept Scale-Short Form (ASCS-SF; Reynolds, Wiseman, & Gilman, 2012) was created "as a measure of an academic facet of general self-concept" (Reynolds, 1988, p. 228). Initially the ASCS was constructed to have a homogenous 59-item assessment; however, it was reduced to a 40-item assessment when Cureton's (1966) item-total correlation technique was utilized to remove superfluous items and streamline the measure (Reynolds et al., 1980, 1988). Recently, Reynolds et al. (2012) shortened the 40-item assessment to 18 items, which established similar levels of reliability and validity as the full-scale assessment. Scores are then summed, with higher scores indicating a stronger academic self-concept. The ASCS-SF is scored on a 4-point Likert scale with values ranging from 1 "*strongly disagree*" to 4 "*strongly agree*" in which higher scores indicate positive academic self-concept (Reynolds, 1988, 2012). Reverse scoring is needed for the following items: 1, 2, 3, 5, 6, 8, 10, 13, 14, 15, and 17 (Reynolds et al., 2012). The possible range of scores is 18 to 72. Items contained within the 18-item scale include statements such as "Others view me as intelligent" and "Most exams are easy for me." Reynolds (1988) noted that the ASCS is an appropriate tool when working with students in college and university settings. Reynolds et al. (2012) noted a Cronbach's alpha of .90 using a sample size of 466 college

students enrolled in psychology courses who took the assessment as extra credit or for a course requirement; demonstrating strong internal consistency for the measure. The author also noted that a sub-sample of 42 college students took the same assessment again approximately a week later, producing a test-retest reliability coefficient of .85. Convergent validity was demonstrated by examining relationships with GPA ($r = .49$), general self-concept ($r = .47$), and procrastination ($r = -.46$). Further, the ASCS-SF was found to have discriminant validity with social desirability ($r = .21$; Reynolds et al., 2012).

Pan-Hispanic Familism Scale. The Pan-Hispanic Familism Scale (P-HFS; Villarreal et al., 2005) is a five-item scale measuring the construct of familismo that has been translated into English and Spanish versions. The P-HFS utilizes a 5-point Likert scale with values ranging from 1 “*strongly disagree*” to 5 “*strongly agree*” in which higher scores indicate ideological beliefs about family (Villarreal et al., 2005). The possible range of scores is 5 to 25. The five items in the P-HFS were chosen from two scales by Gaines et al. (1997) and Gil et al. (2000) with the items being modified in the first person to improve clarity. Items contained in the five-item assessment include statements such as “I know my family has my best interests in mind” and “My family members and I share similar values and beliefs.” Internal consistency was measured to have a Cronbach’s alpha of .82 using a sample of 762 Hispanic participants recruited from a phone list across nine U.S. Census regions (Villarreal et al., 2005). The authors also noted that the P-HFS has factorial invariance across language and country of origin (United States, Mexico, and Latin America).

Achievement Motivation Measure. The Achievement Motivation Measure (AMM; Smith et al., 2019) is used to measure achievement motivation and includes 14 items as compared to the original achievement motivation measure that had 57 items. Smith et al. (2019)

described how the AMM was developed based on Atkinson (1957, 1964) and McClelland's (1961, 1965) research on achievement motivation. This instrument has two main factors identified as Achievement Thoughts (nine items) and Achievement Behaviors (five items). A sample item from the Achievement Thoughts is "I can keep my mind on a task for a long time" and one from the Achievement Behaviors "I would rather work with an expert in the field than with a friend or someone I know." The AMM includes a 5-point Likert-type response set with responses ranging from A "never" to E "always" that is to be used when responding to each item. The range of scores are from zero to fifty-six, with higher scores on the AMM indicating higher levels of achievement motivation and lower scores lower levels of achievement motivation. Smith et al. (2019) noted that this measure is used in a variety of settings and at different phases of the assessment process. Smith et al. (2019) also determined that the AMM subscales had a statistically significant relationship with Rotter's Internal-External Locus of Control Scale. The authors note that when you take responsibility and have confidence in your internal locus of control, you have higher levels of achievement motivation. In the initial review, internal consistency was found to be at a Cronbach's alpha of .84 with a sample of 303 participants using the 21-item AMM form. In the second study, internal consistency was found to be at a Cronbach's alpha of .82 with a sample of 334 participants in a university setting using the 14-item AMM form (Smith et al., 2019).

Career Decision Scale. The Career Decision Scale (CDS; Osipow, 1987) measures career-decision making with a 19-item instrument that measures career indecision. The first two items comprise the Certainty Scale and items three to eighteen comprise the Indecision Scale. The last item is an open-ended question that provides more information about career decidedness if the previous items were not relevant to the respondent. The instrument is rated from 1 "not at

all like me” to 4 “*exactly like me*” on a 4-point Likert-type scale. Items contained in the 19-item assessment include statements such as “I can’t make a career choice right now because I don’t know what my abilities are” and “I know I will have to go to work eventually, but none of the careers I know about appeal to me.” (Osipow et al., 1976). Higher scores on the Indecision Scale reflect higher levels of career indecision regarding career choice. Osipow (1987) stated that the measure was normed for high school students and all levels of undergraduate students based on responses from an initial sample of 1,875 students. The author notes that this initial sample of participants included 1,458 high school students and 417 undergraduate students. The CDS also has test-retest reliabilities of ranges from .82 to .90, also stating that the scores on the CDS had been related to other psychological constructs such as fear of success and locus of control (Osipow, 1987).

Data Analysis

Statistical power analysis. An *a priori* power analysis identified the minimum sample size needed for this study. Using the G*Power 3.1 statistical power analysis program (Faul et al., 2007), while assuming a medium effect size of $f^2 = .15$, alpha level of .05, and power of .80, it was determined that a minimum sample size of 85 participants would be needed for this study using four predictors.

Preliminary analyses. The preliminary analyses in this study first included descriptive statistics for first-year college students computed using the IBM SPSS Statistics software. Then, I included a multiple imputation for any missing data. Lastly, I tested for model assumptions, which included linearity between predictor variables and the criterion variable, homoscedasticity, multicollinearity, outliers, and normality of residuals.

First, I determined the descriptive statistics of first-year students' using SPSS. (See Table 1). First students were asked to identify their age; gender as either male or female; and their ethnicity as African American, White non-Hispanic, Native American or Pacific Islander, Hispanic or Latino, Asian American, Biracial, or Other. Then, students were asked to identify their student status based on either first generation (first person in your family to attend college), second generation (parents attended college), or third generation (grandparents attended college). Also, students identified their work situation based on not being employed, on-campus employment, off-campus employment (30+ hrs./week), or off-campus employment (less than 30+ hrs./week). Additionally, information on students' financial aid status was based on whether they received a Pell grant, student loan, or scholarship to finance their education. Lastly, students answered yes or no to a question related to concerns about COVID-19.

Next, I used the mean function (i.e., series mean) to ascribe missing data points. Peugh and Enders (2004) described mean imputation as the arithmetic mean by which each variable is calculated from the accessible scores, after which missing values were then replaced by the available cases. Eekhout et al. (2012) has stated that mean imputation can be used for missing items on multi-item questionnaires and that you can impute the missing item scores of the item mean for each item. Also, Eekhout et al. (2012) noted that mean imputation may cause biased analysis results when missing data is not missing completely at random (MCAR). I will use SPSS to conduct a series mean functions to replace all missing values found in my dataset.

According to Field (2018), researchers can spot issues of linearity or homoscedasticity with a single graph to determine if there is a relationship between the predicted values and the errors in the model. I will analyze the z-scores of the scatterplot by looking at z_{pred} versus z_{resid} output to test for linearity and homoscedasticity. If linearity and homoscedasticity holds true,

then there should be no systematic relationship (Field, 2018). The author notes that a funneled shape in the graph implies possible heteroscedasticity and indicates growing variance in the residuals, while a curved shape may suggest a violation of the assumption of linearity. Osborne and Waters (2002) noted that a linear relationship between the criterion and predictor variables is important in accurately estimating the relationship between these variables. When the assumption of linearity is violated, there is an increased risk of Type I errors for other predictor variables that share variance with the predictor variable (Osborne & Waters, 2002). In addition, Field (2018) stated that Pearson-Product Moment Correlation r coefficient can be used to determine bivariate correlations that return a value of between -1 and +1. A zero indicates that there is no correlation between two variables. However, this does not mean that change in one variable causes the other variable to change but that the changes do correspond together (Field, 2018). Homoscedasticity in a regression analysis indicates that variables will have the same scatter and that the variance around the regression line is similar for all values on the predictor variable (Field, 2018). If homoscedasticity is violated, results of a regression analysis can be seriously less precise, which increases the likelihood of a Type I error (Dimitrov, 2009). Field (2018) suggests using data transformation when either of these assumptions is violated. When heteroscedasticity be present, data transformation (e.g., log, inverse, or square root) will be conducted to reduce bias. For example, logarithmic transformation can be used for an exceedingly skewed variable in the data.

In a hierarchical regression analysis, the assumption is made that there is a weak correlation between the predictor variables. When there is a strong correlation between two or more predictor variables, the assumption of absence multicollinearity is violated. According to Field (2018), when predictor variables are highly correlated, three issues arise: untrustworthiness

of b values, limits to the size of R , and assessing the importance of the predictor variable making it challenging. Field (2018) suggests assessing the multicollinearity assumption to detect whether there is a strong correlation among the predictor variables, with R values above .8 or .9 in the correlation matrix. However, the author notes that there is no such thing as a perfect absence of multicollinearity. Potential solutions to high multicollinearity involves either removing one of the highly correlated predictor variables or using a partial least squares regression (Dimitrov, 2009; Field, 2018).

When a sample has outliers (extreme observations) relative to other data points in the dataset, the estimates of the regression coefficients and other regression parameters (e.g., R^2) may be highly inaccurate (Dimitrov, 2009). Using standardized residuals, I examined the assumption of absence of multivariate outliers. Standardized residuals are the residuals converted to z-scores standard deviation units (Field, 2018). I determined outliers by how many z-scores fall within a certain limit. Field (2018) mentioned that a standardized residual value greater than 3.29 indicates a possible extreme score. I first checked these data points to determine if these are data entry errors with these outliers. If the outlier appeared to be a data entry error, I replaced the outlier value with the original value. If not, I then checked these values to ensure they were within the range of the possible scores of the corresponding instrument. If the outlier value was either less than or more than the possible score from the test, I substituted outliers with the possible highest or the lowest value of the test, depending upon whether the value was less than or greater than the possible scores. If neither of these courses of actions eliminated the violation, I used SPSS to find a studentized deleted residual to detect outliers on Y or a leverage value to detect outliers on X for some predictors (Dimitrov, 2009). The author stated that if the studentized delete residual for an observation is greater than 3.0, then that indicates a red flag; or

if the leverage value exceeds $3(k + 1)/n$, where k is number of predictors and n is the sample size that is considered large. Options to remove the outliers out of the dataset; however, it is important to make sure that the sample size is adequate. Lastly, Osborne and Waters (2002) also describe transforming the outliers (e.g., square root, inverse, and log) to improve normality but must be done in a sound manner. If necessary, I would transform outliers found in the dataset.

Lastly, I tested the assumption of normally distributed errors to analyze regression-standardized residuals. Regression standardized residuals graphs portray the distribution of errors and provides a visual representation that can be used to determine whether the distribution is normal or skewed. Field (2018) described that this assumption presumes that errors in the model should appear at random and have a mean of zero with normal distribution.

Primary analyses. I used a hierarchical multiple regression analysis to examine the research questions related to career maturity, academic self-concept, familismo, and achievement motivation in predicting students' career indecision. I tested the hypothesis at the alpha level of .05. Dimitrov (2009) noted that a hierarchical regression model is a method where you enter meaningful units into the regression equation one at a time to examine the unique contribution (R^2 change) they make to the prediction of the criterion variable. The strongest predictors of the criterion variable can be entered in the first block, while other predictors can be entered in subsequent blocks. A study by Alam (2016) found that there was a statistically significant relationship between home environment, academic self-concept, and career maturity among adolescent students. Thus, when students are given academic support and opportunities to succeed they will develop their abilities and competencies, which will allow them to strive to work diligently to achieve their career goals (Alam, 2016). Istiana (2017) also found a strong

positive relationship with career maturity and academic self-concept. Also, Coertse and Schepers (2004) noted that individual personality has a vital role in career maturity.

One of the personality factors associated with career maturity is self-concept. Hence, it seemed appropriate that the first block consisted of academic self-concept and career maturity. Ferguson (2007) noted that there was a statistically significant relationship between the Indecision score from the CDS and the Achiever and Goal scores from the Achievement Motivation Profile, but not from the Motivation portion of the Achievement Motivation Profile with students in higher education. Based on these scores, a relationship exists between career decision and the motivation to persist in higher education. Thus, the second block consisted of achievement motivation. Finally, familismo was entered into the third block to assess the amount of variance explained by this variable above and beyond what the other three predictor variables explained. Balkin and Kleist (2017) stated that reporting guidelines for interpreting R^2 values are small at .02, medium at .13, and large at .26. In this regression model, I looked at changes in R^2 as new variables were added to the model in subsequent blocks. I interpreted the change of variance for each individual variable as being statistically significant at the .05 level (See Table 2).

Representation of Data

This predictive study used visual representation to report data. When reporting statistical, tables and figures, the Publication Manual of the American Psychological Association (7th ed., 2019) will be used to properly communicate and demonstrate data within the results section (Bavdekar, 2015). Tufte (2001) noted that using graphics to display quantitative data is one of the best methods to examine numerical data. As such, figures are used to depict the data analysis portion of the hierarchical regression model. Furthermore, tables are used to report and make

data more presentable, consistent, and informational (APA, 2010; Bavdekar, 2015). Tables are used to report the scores among scales and the summary of the regression model. Table One identifies the demographic information for first-year college students that includes mean (M), standard deviation (SD), age range (Ra), sample (n), and percentage of total sample. Table Two identifies the descriptive statistics of the instruments that includes mean (M), standard deviation (SD), range (Ra), and sample (n). Table Three identifies the Pearson's correlation of the criterion (r) and predictor variables. Table Four provides a summary of career maturity, academic self-concept, familismo, and achievement motivation predicting career indecision that includes sample (n), standardized partial regression coefficient (B), standard error beta ($SE B$), beta coefficient (β), t values, F ratios, squared semipartial correlations (sr^2), and squared multiple correlations (R^2). Figure One visually demonstrates Social Cognitive Career Theory. Figure Two visually presents the flow chart of participants, and Figure Three is a flow chart of the hierarchical regression analysis.

CHAPTER IV: FINDINGS

Introduction

In this chapter, I report on the statistical analyses I performed in this quantitative research study. Additionally, I will provide information on the demographic characteristics of the sample members who participated in my study. The purpose of this research study was to identify the degree to which the constructs of career maturity, academic self-concept, achievement motivation, and familismo support first-year college students' career indecision. To achieve this purpose, I provide both a narrative and illustrative depiction of the results obtained from the following research questions:

- a) What are the levels of career maturity, academic self-concept, achievement motivation, and familismo among first-year college students?
- b) What are the relationships among career maturity, academic self-concept, achievement motivation, and familismo among first-year college students?
- c) What is the influence of achievement motivation and familismo in first-year college students' career indeciveness after controlling for career maturity and academic self-concept?

Demographic Characteristics

Ninety-one first-year college students enrolled in an FYCLP participated in the study. The sample was comprised of 66% females ($n = 60$) and 34% males ($n = 31$). Participant ages ranged from 18 to 26 with a mean age of 19.49 ($SD = 3.2$). Furthermore, participants self-reported their ethnicities as follows: 42% Hispanic, Latino(a), or Spanish origin ($n = 38$), 40% White or Non-Hispanic ($n = 36$), 6% Asian American ($n = 6$), 6% African American ($n = 6$), 3% Biracial ($n = 3$), 1% Native American or Pacific Islander ($n = 1$), and 1% Other ($n = 1$). In

addition, student status of the sample included 29% first generation ($n = 26$), 44% second generation ($n = 40$), and 27% third generation ($n = 25$). The employment status of sample participants was as follows: 67% not currently employed ($n = 61$), 8% on-campus employment ($n = 7$), 11% off-campus employment plus 30 hours or more a week ($n = 10$), and 14% off-campus employment minus 30 hours or more a week ($n = 13$). Moreover, financial aid status of the sample included 19% Pell grant ($n = 17$), 27% student loan ($n = 25$), 19% scholarship ($n = 17$), and 35% no financial aid ($n = 32$). Lastly, participants were asked if the pandemic has caused them to rethink or make them more indecisive about their future career. The sample percentages to that question included 63% No ($n = 57$) and 37% Yes ($n = 34$). See Table 1 for a listing of these descriptive statistics.

Participant Flow

The target population for this study was first-year college students enrolled in the TAMU-CC First-Year Learning Communities Program. During the spring 2020 academic term, there were 1,800 first-year students enrolled in this program. However, the number of students who were exposed to participate in the study cannot be determined due to my lack of knowledge regarding how many students received the recruitment emails from first-year seminar instructors. Furthermore, even if first-year college students were informed about the study, it is possible they might not have even opened the email invitation and saw the opportunity to participate. Consequently, the total of 102 first-year college students who started the study through Qualtrics represents 5.7% of the target population. Of those 102 participants, four withdrew from the study for unknown reasons and seven were discarded from the study due to significant missing data (more than 25%) in their responses leaving a remaining sample of 91 first-year college students. Figure 2 illustrates the flow of participants throughout the study.

Figure 2

Participant Flow Chart

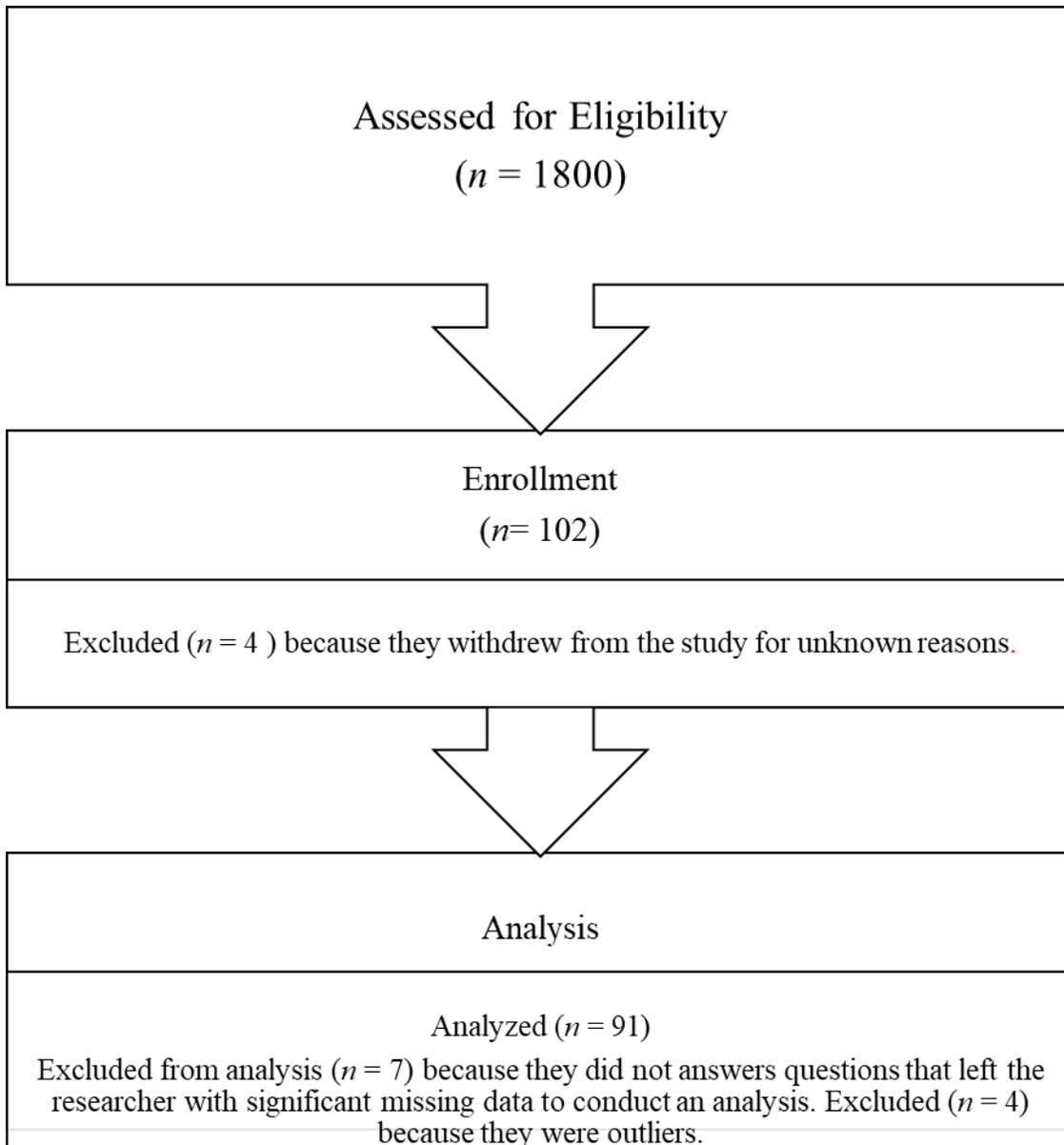


Table 1*Descriptive Statistics for First-Year College Students*

Demographics	<i>M</i>	<i>SD</i>	<i>Ra</i>	<i>n</i>	% Total Sample
Age	19.49	3.20	18-36		
Gender					
Male				31	34.1
Female				60	65.9
Ethnicity					
Hispanic, Latino(a), or Spanish origin				38	41.8
White, Non- Hispanic				36	39.5
Asian American				6	6.6
African American				6	6.6
Biracial				3	3.3
Native American or Pacific Islander				1	1.1
Other				1	1.1
Student Status					
First Generation				26	28.5
Second Generation				40	44.0
Third Generation				25	27.5
Working Situation					
Not currently employed				61	67.0
On-campus				7	7.7
Off-campus +30 hours				10	11.0

Off-campus -30 hours	13	14.3
Financial Aid Status		
Pell Grant	17	18.7
Student Loan	25	27.5
Scholarship	17	18.7
No financial aid	32	35.1
COVID-19 Pandemic Concerns		
No	57	63.0
Yes	34	37.0

Preliminary Analyses

Data Cleaning

According to the G*Power 3.1 Statistical Power Analysis Program (Faul, Erdfelder, Lang, & Buchner, 2007), I gathered enough participants as my sample, minus the cases discarded due to participants' early withdrawal from the study, incomplete surveys, and outlying responses, still exceeded the recommended minimum sample size of 85 participants. Using Qualtrics, I downloaded the data into a legacy aggregated SPSS file. First, I reviewed and cleaned the aggregated SPSS file. The data cleaning began by deleting information that was not essential to the quantitative analyses I would perform, such as participants' start and end dates, status, IP addresses, progress, duration in seconds, recorded date, response ID, location (longitude and latitude), distribution channel, and user language. Once all unnecessary data was removed, I began the process of reverse scoring appropriate items on the Academic Self-Concept Short Form prior to performing the quantitative analyses.

Missing Values Check

I then screened the dataset for any significant missing values (>25% of values missing per case) and thus removed seven cases leaving a sample size of 91. With 91 participants each responding to non-demographic survey 165 items, my dataset contained 15,015 cells. Across these cells, there was a total of 18 cells with missing data, representing .002% of the dataset. Furthermore, the missing data appeared to be missing completely at random (MCAR). According to Peugh and Enders (2004), MCAR relates to any observed missing data point that has no relationship to any values in the dataset. In addition, a series mean replacement function was used because it would not reduce my sample size and the sample mean of the variables is not biased with MCAR (Schork, 2019). Since my missing values totaled less than 5% of the possible data points, and they were found to be MCAR, I conducted a series mean function in SPSS to impute these missing univariate data points. In order to compute scale scores, I added original values and imputed values for all items as appropriate for each scale.

Model Assumptions

There are four model assumptions for multiple regression that will be discussed in this study. Field (2018) noted that it is important to check for model assumptions because we have to ensure what we are testing in fact works and use test statistics associated with the model at face value. In addition, the author mentions how attention to model assumptions allows the researcher to interpret the results of the data accurately.

Multicollinearity. To address multicollinearity, Field (2018) stated that if a variance inflation factor (VIF) greater than 10 suggests a violation of multicollinearity. Hutcheson and Sofroniou (1999) offered a more stringent assessment, positing that the VIF cut-off score should be four when diagnosing multicollinearity. If there is a strong correlation between predictor

variables, then it violates the assumption of absence multicollinearity. I tested for multicollinearity using the stricter criterion of VIF values less than four and found that my predictor variables did not robustly correlate with each other. For the CMI, I found the absence of robust multicollinearity at $VIF = 2.29$. For the ASCS-SF, I found the absence of robust multicollinearity at $VIF = 1.21$. For the AMM, I found absence of robust multicollinearity at $VIF = 1.18$. Lastly, for the P-HFS, I found absence of robust multicollinearity at $VIF = 1.18$.

Outliers. To address outliers, I inspected for any extreme data points in the dataset. I conducted a Box Plot with a Stem and Leaf Plot and found four existing outliers in my dataset. Based on these findings for the (CMI), two cases had extreme values. For the ASCS-SF, one repeated case had an extreme value along with the (P-HFS). Lastly, the (P-HFS) had two cases with extreme values. I took out these four outliers from the dataset, leaving a final sample of 91 participants.

Normality. A Kolmogorov-Smirnov Test Statistic was computed to assess the assumption of normality. Dimitrova et al., (2017) noted the Kolmogorov-Smirnov Test Statistic determines how well the distribution of a random sample compares with that of a theoretical distribution. Garson (2013) stated that the Kolmogorov-Smirnov Test should be non-significant if residuals are normally distributed. The results of this analysis were significant for scores on my outcome variable, CDS scores, $K-S(91) = .128, p < .05$. As a result, the normality assumption was not met. However, within multiple regression designs, the data typically is robust enough to not be affected by violations of normality (Osborne & Waters, 2002).

Linearity. To address linearity, I conducted a visual inspection of the scatterplot of scores on the CDS and CMI and noted there seems to be a linear trend line. Next, I conducted a visual inspection of the scatterplot of scores on the CDS and AMM and noted there seemed to be

a linear trend line. I then conducted a visual inspection of the scatterplot of scores on the CDS and ASCS-SF and noted there seemed to be a linear trend line. Lastly, I conducted a visual inspection of the scatterplot of scores on the CDS and P-HFS and noted there seemed to be a linear trend line. Based on my visual inspection of the data and the conclusions I drew, I determined that the linearity assumption has been met in my study.

Primary Analyses

Research Question 1

To address the first research question, I computed descriptive statistics for each of the measures used in my study. Descriptive statistics include the mean (M), standard deviation (SD), range of scores (low to high) (Ra), and sample size (n). Since missing values were addressed pre-analysis, the descriptive statistics are based on the responses of 91 participants each.

The Career Maturity Inventory (CMI) had scores of ($M = 14.16$, $SD = 4.45$, $Ra = 5-21$). For context, Savickas and Porfeli (2011) reported a CMI total mean score of 14.82 ($SD = 5.98$) for a sample of 453 high school students. The 12th graders in that sample had a total mean score of 15.05 ($SD = 6.11$) (Savickas & Porfeli, 2011). It seems that the average total scores of the 12th graders surveyed in prior research had similar scores with my sample of first year college students. Also, the authors did not provide any range of scores for their study.

The Academic Self-Concept Scale-Short Form (ASCS-SF) had scores of ($M = 48.36$, $SD = 7.68$, $Ra = 30-67$). Reynolds et al. (2012) did not report any total mean scores or standard deviation scores in that presentation. However, Sweet (2018) reported using the ASCS-SF as a pre-course survey with a sample of 248 undergraduate students and a post-course survey with a sample of 153 undergraduate students. The author calculated a mean pre-course ASCS-SF score of 51.20 ($SD = 7.42$) and a mean post-course ASCS-SF score of 51.03 ($SD = 8.79$). In another

study by Baker (2017), the author reported using the ASCS-SF with a sample of 191 undergraduate students while 3.7% of those were freshmen. The author calculated a total mean ASCS-SF score of 54.08 ($SD = 7.71$). It seems that average total mean and standard deviation scores were similar between the studies except for the standard deviation score in the post-course survey.

The Achievement Motivational Measure (AMM) had scores of ($M = 34.19$, $SD = 6.50$, $Ra = 15-48$). Smith et al. (2019) described, in their second study with a sample of U.S. students ($n = 248$), having a total mean score of 40.19 ($SD = 7.99$), which was similar to scores in my study. The authors did report a sample of freshmen ($n = 170$, 52%), but did not report any descriptive statistics for this subsection of their sample.

The Pan-Hispanic Familism Scale (P-HFS) had scores of ($M = 4.09$, $SD = .73$, $Ra = 10-25$). The authors of the P-HFS did not report any mean total scores, standard deviation, or range of scores of participants (Villarreal et al., 2005). Vela et al. (2015), using an undergraduate student sample ($n = 128$) at a HSI, reported a mean score of 4.51 ($SD = .63$). In another recent study by Vela et al. (2017), using an undergraduate student sample ($n = 126$) at a HSI reported a mean score of 4.28 ($SD = .97$). These two studies did not report a subsection of first-year students and had similar scores compared to my study.

The Career Decision Scale (CDS) had total scores of ($M = 35.98$, $SD = 7.74$, $Ra = 24-58$). In addition, Osipow (1987) noted that the college student freshmen sample ($n = 94$) had a total mean score of 33.86 ($SD = 10.42$). These scores are also very similar to my study. In addition, Gallo (2017) reported similar pre-test total scores ($M = 40.24$, $SD = 7.23$) with a subsample of 21 freshmen students. However, it is important to note that within these studies, the authors did not include any minimum or maximum in regards to the range of scores. (See Table 2).

Table 2*Descriptive Statistics of Scales*

Variable	<i>M</i>	<i>SD</i>	<i>Ra (low to high)</i>	<i>N</i>
Career Maturity	14.16	4.45	5-21	91
Academic Self-Concept	48.36	7.68	30-67	91
Achievement Motivation	34.19	6.50	15-48	91
Pan-Hispanic Familism	4.09	.73	10-25	91
Career Indecision	35.98	7.74	24-58	91

Research Question 2

To address the second research question, I computed a series of Pearson-Product Moment Correlations to examine all pairwise intercorrelations. The Pearson correlations for all pairwise comparisons are included in Table 3. During these analyses, I used an alpha level of .05 to determine statistical significance. Fields (2018) described that having an alpha level below .05 indicates a 5% risk of determining that a difference exists when in fact there is no difference. In addition, the Pearson coefficient r values of ± 0.1 indicate a small effect, ± 0.3 indicate medium effect, and ± 0.5 indicate a large effect (Field, 2018). The author notes that the interpretation of these effect sizes should be in context with the research literature. Each of these pairwise correlations were statistically significant except for the relationship between achievement motivation and academic self-concept ($r = .19, p = .06$) and the relationship between career maturity and familismo ($r = .17, p = .11$).

Table 3*Pearson Correlations among Scales*

Variable	1	2	3	4	5
1. Career Decision Making	--	*-.27	*-.35	*-.30	*-.23
2. Academic Self-Concept		--	*.18	*.20	*.33
3. Career Maturity			--	.10	.12
4. Achievement Motivation				--	*.24
5. Pan-Hispanic Familism					--

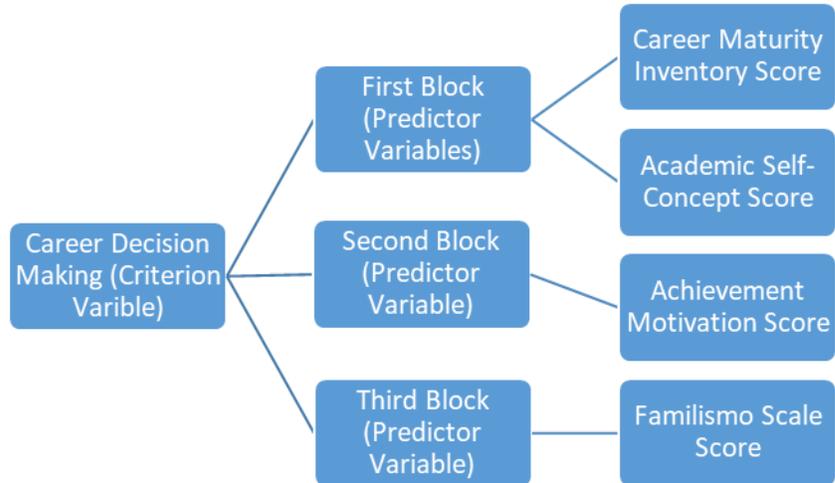
*significant at the .05 level

Research Question 3

To address the third research question, a hierarchical regression analysis was conducted to identify the degree to which career maturity, academic self-concept, achievement motivation, and familismo (predictor variables) support first-year college students' career indecision (criterion variable). The results of this analysis are detailed in Table 3. Included in the first block of this hierarchical design were the values of career maturity and academic self-concept. In the second block, I added the value of achievement motivation. Finally, familismo was entered in the third block. This process is illustrated in Figure 3.

Figure 3

Hierarchical Regression Analysis Flow Chart



The hierarchical regression analysis estimating the influence of the predictor variable on the CMI and the ASCS-SF total scores yielded a statistically significant model, $F(2,88) = 51.04$, $p < .01$, $R^2 = .527$, indicative of a large effect size in which model predictors account for approximately 52.7% of the change among the CMI and ASCS-SF total scores. The addition of the achievement motivation measure to the model in block 2 did not yield a statistically significant addition to the overall predictive model as only 0.2% of additional variance was explained. In block 3, familismo was added to the model. Its addition did not yield a statistically significant finding, as it only accounted for an additional 0.8% of explained variance. While the overall model indicates a significant set of predictors, the inclusion of the exploratory variables, achievement motivation and familismo, did not independently contribute a significant increase in the amount of variance in CDS scores above the variables includes in the initial block (CMI and ASCS-SF scores). The results of this three-step hierarchical regression analysis appear in Table 4.

Table 4*Summary of Hierarchical Regression Model*

Variable	B	SE B	β	t	sr²	F	R²
<u>Model 1</u>						51.04	.527
*CMI	-1.24	.13	-.71	-9.38	.46		
*ASCS-SF	-.06	.08	-.06	-.72	<.01		
<u>Model 2</u>						33.92	.539
AMM	-.06	.09	-.05	-.62	<.01		
<u>Model 3</u>						25.99	.547
P-HFS	-.21	.17	-.10	-1.25	<.01		

Note. * = significant at the .05 level

CHAPTER V: DISCUSSION AND CONCLUSION

Introduction

Deciding on a career while entering higher education can be a challenging transition, often posing several difficult questions for first-year college students. It is normal to find developmental career indecision within this population, but there are various types of career indecision. Within this quantitative study, not every construct provided statistical significance in relation to the career-decision-making variable. Understanding the influence of career maturity, academic self-concept, familismo, and achievement motivation may provide insight on how career counselors, faculty, and academic support staff can help first-year college students make appropriate career decisions going forward into their academic career. The primary purpose of this hierarchical regression analysis was to identify the degree to which career maturity, academic self-concept, achievement motivation, and familismo predict first-year college students' career indecision. Overall, the literature described and reviewed in this study discussed the foundations of career indecision, career maturity, academic self-concept, familismo, and achievement motivation.

I here provide an overall discussion of this study's results that connect with the review of the literature. I aim to elucidate what these results mean and how they are important for first-year college students and stakeholders. Next, I will describe potential implications of the impact of the overall study and address how these results can affect the career counseling field. In addition, I will describe any limitations found in this study. Lastly, I will mention suggestions for further research and highlight any key findings in the conclusion.

Discussion

For question one, I wanted to determine if the participants in my sample were responding to the included measures in a manner similar to past samples reported on in prior research. The results for question one signified that the Career Maturity Inventory (CMI) had similar total mean and standard deviation statistics as the sample group used in the Savickas and Porfeli's (2011) study. Similar results from both studies included participants from urban areas, similar ages, had similar attitudes to career readiness, and were transitioning or recently transitioned into higher education as first-year college students. The Reynolds et al. (2012) poster presentation did not provide any total mean or standard deviation statistics for the Academic Self-Concept-Short Form (ASCS-SF). However, Sweet (2018) calculated a mean pre-course ASCS-SF score of 51.20 ($SD = 7.42$) and a mean post-course ASCS-SF score of 51.03 ($SD = 8.79$). In another study by Baker (2017) calculated a total mean ASCS-SF score of 54.08 ($SD = 7.71$). Both these studies had similar total mean and standard deviation statistics for the ASCS-SF except for the post-course standard deviation score. This suggested that results were similar because participants were of similar age, enrolled in undergraduate courses, and had similar attitudes towards academic self-concept. However, the post-course survey standard deviation score was one standard deviation point above the other studies because those students achieved student course success in their quantitative methods class. Smith et al.'s (2019) Achievement Motivation Measure (AMM) provided a total mean score and standard deviation statistic different to this research study. This suggested that different results were because Smith's et al. (2019) study included students with all four years of college experience with 48% of them being non freshmen students. Because of this, students who were not in their first-year were more likely into their majors, had possible positive seeking attitudes towards a career, and were looking towards their

future. Villarreal et al. (2005) reported no mention of total mean scores, standard deviation scores, and range of scores of participants for the Pan-Hispanic Familism Scale (P-HFS), which I unfortunately could not make any comparisons to participant scores in this research study. Suggesting that the studies with these similar results possibly had subsamples that contained participants who identified as freshmen and also espoused a collectivistic mentality. The researcher collected a sample that largely consisted of Hispanic students (42%) that were all first-year college students attending a FYLCP. In the fall of 2019 and 2020, the data showed that Hispanic students were comprised of 51% and 52% of the undergraduate population at TAMU-CC (Data Center for TAMU-CC, 2021; National Center for Education Statistics, 2021). In comparison to the 2020 fall enrollment, the sample collected in this study had a 10% lower participation rate of Hispanic students. This discrepancy may have played a role in determining if students endorsed a collectivist mentality because there would have been more first-year Hispanic students that could have participated in this study if they matched the undergraduate Hispanic student population. Statistics show that the Hispanic population has increased over the past decade and is the second most predominant ethnicity in the country that will keep growing. According to the U.S. Department of Education (2019) reported that the White population have decreased from 10.9 million to 8.7 million from 2010-2018 while the Hispanic population has increased 2.6 million to 3.4 million from 2010-2018 in undergraduate enrollment in degree-granting postsecondary institutions. All these studies were also conducted at Hispanic-Serving Institutions (HSI). Lastly, the Career Decision Scale (CDS) had similar total mean and standard deviation statistics with this research study (Osipow, 1987). A dissertation conducted by Gallo (2017) reported using the CDS and found similar total mean and standard statistics with a subsample of freshmen students, suggesting that these similar results were because both samples

consisted of similar number of participants of freshmen or first-year college students, similar age groups, and had similar attitudes with regard to career indecision. It also important to note that the researcher did not incorporate open-ended item 19 into the analysis from the CDS. According to Osipow (1987), the user who administers the CDS only scores the first 18 items from the Certainty Scale and Indecision Scale to determine a total score. However, in hindsight item 19 should have been included for students to fill out in order to capture any unique barriers to the decision-making process that may have not been represented in the scale items (Osipow, 1987).

For question two, I wanted to determine if there were any significant relationships between career maturity, academic self-concept, achievement motivation, and familismo with first-year college students. Using Pearson product moment correlations, I found that there were no statistically significant relationships between achievement motivation and academic self-concept. Results suggest that there was also no linear correlation between these two scales with this sample. Upon further consideration, one reason for this result could be due to that the ASCS-SF focuses more on noncognitive aspects of personality while the AMM focuses more on thoughts and behaviors for the need to achieve. However, in further studies, this should not discourage researchers from using these two instruments with their populations in the future. In addition, there was no statistically significant relationship between career maturity and familismo. Results suggest that there was also no linear correlation between these two scales with this sample, which is surprising as the CMI-Counseling Form C has a consultation subscale that addresses interdependence with family and friends. However, it is possible that the interpretation of these consultation scores vary depending on a cultural identity (Savickas & Porfeli, 2011). That 58 % of the sample were not of Hispanic origin could have produced this result. It is possible that these individuals with family connections does not translate to their

career choices. These students may not also be as family orientated, may have stronger western ideals, and more likely to be individually goal orientated compared to those who identified as Hispanic in this sample. There were also eight significant Pearson correlation scores among the scales in this research study. The results suggested that there was a linear correlation among these scales (See Table 2). Lastly, there were no relationships that had R values greater than .80 that suggested the absence of multicollinearity with these scales which allowed the researcher to determine which variables likely had a contributing variance to the overall model.

For question three, a hierarchical regression analysis was conducted to determine the influence of achievement motivation and familismo in first-year college students' career indeciveness after controlling for career maturity and academic self-concept. In block one, the CMI and ASCS-SF scores yielded a statistically significant contribution to the overall model. This was consistent with the hypothesis based on other research studies with similar results (Alam 2016; Istiana, 2017). In block two, the AMM scores did not yield a unique contribution to the overall variance explained. Somewhat surprisingly, this result was not consistent with the researcher's hypothesis that it would produce a statistically significant contribution to the overall variance. Ferguson (2007) reported a statistically significant relationship with career decision score from the CDS and the achiever and goal scores from the Achievement Motivation Profile (AMP). Additionally, the author noted that the sample collected were both freshmen and sophomore students who were in elective classes, meaning these students were possibly self-motivated to learn. It is possible that different results were obtained because of the uniqueness of the researchers' sample being only first-year college students. Those in higher level grades are more likely to persist to achieve compared to first-year college students who may lack certain academic and career resources to be successful. Lastly, in block three, the P-HFS scores did not

yield a unique contribution to the overall variance explained. The results found here were surprising since family can play a vital role with the career decision-making process. Within this study, it is possible that a mixed sample which did not include all Hispanic students played a role in these results. Since half of the students who did not identify as Hispanic may have espoused a more individualistic mentality towards career choice. Although family is important to them, choosing a career based on what the family needs may not have been a priority for them. Thus, it may not have resonated with them and ultimately impacted the overall model.

The Predictive Hierarchical Model

The hierarchical regression model indicated that the total scores of CMI and ASCS-SF estimating the predictor variable yielded a statistically significant model. This accounted for approximately 52.7% of the change in the CMI and ASCS-SF total scores in block one. However, achievement motivation only accounted for .2% of additional variance and familismo only accounted for .8% of explained variance. As mentioned before, researchers have found relationships between these variables and it made sense for the researcher to pair these together for model 1. So based on these results of the present study, the researcher is able to confirm previous findings.

The non-statistically significant results for block 2 with the experimental achievement motivation variable were not expected and it may be due the overall uniqueness of the freshmen sample. The non-statistically results for block 3 with the experimental familismo variable were also not expected and it may be due the mixed sample used in the study. Also, it was not expected given our understanding of Hispanic culture when making career decisions. Although block 2 and block 3 were not significant in the overall model, it should not discourage future researchers in further understanding these constructs with first-year college students.

Predictive Variables

Career Maturity

Individuals who are found to have high career maturity have the ability to recognize specific occupational-related preferences and complete tasks that allow them to achieve their goals. In addition, as mentioned earlier, researchers have found that career maturity is closely related to career indecision (Alam; 2016; Istiana, 2017; Levinson et al., 1998; Migunde et al., 2015; Prideaux & Creed, 2001). McCaffrey et al. (1984) found that college students in higher grade levels (junior and senior) reported higher levels of career maturity when compared to lower grade level students (freshmen and sophomore). The authors noted that freshmen had significantly lower career maturity scores than senior students using the Career Development Inventory (CDI). This suggests that upper grade level students are further along in the career development process regarding attitudinal and cognitive readiness to pursue a career.

Brown and Lent (2012) noted that students with high levels of attitudinal readiness are active in planning and investigating their future in a career, and that students with high levels of cognitive readiness have obtained knowledge regarding occupations and know how to make reliable career decisions with the information available to them. The results of this study indicated that career maturity and academic self-concept in step one proved to be statistically significant criterion variables that influenced career indecision. However, it does seem that career maturity carried the weight in step one with a partial correlation of $-.731$. Suggesting that an individual who has high career maturity is more likely to have less career indecision. While someone who has high academic self-concept may or may not struggle with deciding on a career.

Academic Self-Concept

Beheshtifar et al., (2012) noted individuals with a positive self-concept tend to become more successful in the career-decision-making process. In contrast, those with lower levels of self-concept lacked cognitive and motivational resources (Nunez et al., 1998). In addition, an individual with high academic self-concept has a strong knowledge base and perceptions about themselves in academic situations (Ferla et al., 2009; Reynolds, 1988). Also, students with higher levels of academic self-concept valued their own abilities, accepted challenges, took on new risks and goals, and had a higher motivation to complete challenging tasks (Bong & Skaalvik, 2003; Pintrich et al., 1994). Researchers have found that individuals who have higher academic self-concept reflect positively with academic grades, college attendance, academic achievement, and educational attainment (Guay et al., 2004; House, 1993). This suggests that students who have higher academic self-concept are more likely to succeed academically. Students with higher levels of academic self-concept seem have positive attitudes regarding school, confidence with their academic goals, and the internal resources to perform well in the classroom. Lastly, researchers can use the ASCS-SF to assess for academic self-concept.

As stated before, the assumption before the regression analysis took place was that both predictive variables in model one would be statistically significant with the career-decision-making variable based on what was found in the literature. Reynolds et al. (2012) noted a Cronbach's alpha of .90 using a sample size of 466 college students demonstrating strong internal consistency for the measure. The author also noted that a sub-sample of 42 college students took the same assessment again approximately a week later, producing a test-retest reliability coefficient of .85, suggesting that this predictive variable was appropriate for the use of first-year college students. You could also argue that students who have high career maturity

are very likely to have high academic self-concept based on the results found in this hierarchical regression study and what has been found by previous researchers. However, someone who has high academic self-concept may or may not have low career indecision whereas someone with high career maturity will likely have low career indecision. Overall, academic self-concept seem like a great fit with model 1 within the hierarchical regression model.

Achievement Motivation

McClelland (1961) mentioned that individuals who are high achievers tend to have a characteristic need to achieve. Smith et al. (2019) noted that individuals who have high cognitive motivation seem to plan action towards excellence, expect success, and have positive feelings afterwards, worry about failure before and after it is achieved, and seek help from others to successful. The authors also noted that those with high behavioral achievement motivation take more calculated risks, understand how they are doing, seek constructive feedback, test their personal responsibility to accomplish goals, and approach new situations with intentionality. This suggests that students who have higher levels of achievement motivation are more likely to be academically successful and that this may also impact some levels of the career development process.

According to the hierarchical regression analysis, achievement motivation in step 2 did not produce any statistical significant findings in relation to the overall predictive model. The assumption was that there would be a statistical significant finding because students who were decided on their career would likely persist and succeed academically (Berger & Milem, 1999). In addition, it seem like it would be a good fit because it had similar theoretical underpinnings with career maturity, which is a construct similar to career indecision. Which evidences with the AMM levels from this age demographic. As stated earlier, Ferguson (2007) found a statistically

significant relationship between the Indecision score from the CDS and the Achiever and Goal scores from the Achievement Motivation Profile (AMP). However, it is important to mention that the AMP was developed to be used with underachieving students and has very few relatable concepts that relate to achievement motivational theory (Smith et al., 2019). Additionally, the authors also mentioned that the AMM had low reliability scores with the achievement behavior subscale which could have impacted the results of this study.

Familismo

Sabogal et al. (1987) noted individuals with high levels of familismo tend to have a strong identity and attachment to nuclear and extended family members (Sabogal et al., 1987). Researchers have expressed that familismo is both attitudinal and behavioral (Calzada et al., 2013; Steidel & Contreras, 2003; Sabogal et al., 1987; Villarreal et al., 2005). Also, Hernandez & Bamaca-Colbert (2016) noted that behavioral familismo and career indecision may be relatable; for example, the pressures of assisting parents in work may interfere with alternate positive opportunities, such as a college student who, while trying to pursue an education, must leave to help out the family who is struggling financially. This suggests that students who take care of their parents may have to disregard their education in order to help with the responsibilities of the home. Students who come from strong family ties often have expectations to stay and help the family at any cost. In relation to this study, the assumption was that familismo may have some impact on student's career-decision-making; however, it was believed that familismo would have a significant relationship with career indecision.

The assumption was made that familismo could possibly be a fit with hierarchical regression analysis because of the sample population and that there was a possibility that the rest of the sample excluding Hispanics would espouse a collectivistic mentality. However, Villarreal

et al. (2005) mentioned that the P-HFS was constructed on the ideological beliefs of family and the questions were not behavioral in nature. If such is the case, it could be a reason why familismo was also not statistically significant in step 3 in this hierarchical regression model. Because the P-HFS did not capture behavioral familismo, there may have been behavioral familismo questions that could have provided support for this construct with the career-decision-making process. However, familismo can still be seen as a cultural construct where it can be viewed with a diverse group of people. Career counselors can assess for familismo using both behavioral and attitudinal scales to help students identify with various beliefs about how family is important to them and what that means for the career development process.

Implications

The results from this study have implications for career counselors and academic support staff. It is important that we understand the uniqueness of first-year college students and the Hispanic population as it is one of the fastest growing ethnicities in the United States. When working with the Hispanic population we want to take into consideration that we don't assume that their career choice is theirs alone because the values and beliefs about family may have a bigger impact on their career choice. With that in mind, career counselors should identify and explore first-year college student's impact of family beliefs and values with during the career decision-making process. This could be both attitudinal and behavioral family beliefs and values. Also, academic support staff, such as first-year instructors and administrators, should recognize that it is normal for first-year college students to have career indecision. However, it can lead to chronic career indecision in the future where the student may have difficulties choosing a career or major as upper-level students, dropping out at higher rates, employing dysfunctional beliefs in career decision-making, and experiencing lack of motivation and awareness of occupational

information, career anxiety, and lack of career control (Daniels et al., 2011; Gati et al., 1996; Ferguson, 2007; Nauta, 2012; Savickas & Porfeli, 2011). In addition, this can manifest with other career-related issues such as job transitions, relocations, job hunting, and unemployment (Osipow, 1999). It helps motivate career counselors and academic support staff to make sure that they identify and screen individuals who have career indecision during the career decision-making process. It is important for career counselors and academic support staff to also understand how it can impact first-year college students' academic and vocational careers in the future to choose a career that matches their interests and values, be more likely to graduate, be motivated to succeed and be in control, and have fewer issues with other career-related decisions.

Career Counselors

An implication for career counselors is that there is a significant relationship between career maturity and academic self-concept with the career-decision-making process. This suggests that career counselors can assist first-year college students by improving career choice readiness either with individual or group sessions at a career services center. Savickas and Porfeli (2011) noted that career counselors may use the CMI Form C, so that once the student completes it, the career counselor can teach by introducing concepts related to career choice readiness and career concern. The authors describe using a three-step cycle of non-directive exploration, directive shaping, and exploration by drawing out students' attitudes and examining beliefs, emotions, and behaviors about career decision-making. Next, career counselors can use probing questions, open-ended questions, reflection of thoughts and feelings, silence, and questions of meaning to respond to the students and provide a broader adaptive perspective on attitudes regarding career decision-making (Savickas & Porfeli, 2011). When the student expresses a new career choice attitude, the career counselor may use homework, role-play, and

behavioral modeling to guide goal-directed behavior. Lastly, career counselors should still help students who have high career maturity with career planning and educate them about the world of work.

Career counselors can also create website pages dedicated to career readiness, career choice, and career planning by providing links where students can access and search for career options based on their values and interests. Also, using the SCCT framework, career counselors can explore first-year student's support systems and contextual barriers. For example, a first-year Hispanic student may be having difficulty being away from their family during their initial time at the university, so it would prudent to explore this barrier and help the student cope with these pressures. Also, the career counselor can then explore if the individual is experiencing anxiety or frustration towards this new environment being away from home. Andujar (2006) mentioned that career counselors can also use humor with Latino(a) students to help them adjust to difficult events and alleviate the stress in their lives by telling jokes and having funny relatable stories in session. This approach could be used to build rapport with the student. Also, Hispanic parents and older siblings tend to play a huge role in the individuals decisions about their career aspirations and choices, so it also prudent for the career counselor to recognize and be careful to not impose one's values and beliefs that may negatively impact the career counseling process.

In group career counseling sessions, the career counselor can address the item discussion cycle within the group to allow group members to serve as role models for others who are still developing a their attitudes. Specifically, this could mean that a student who demonstrates higher levels of career maturity may motivate others in the group to make appropriate career decisions. Also, students can encourage other students to explore their career choice with the career counselor as the lead facilitator. In addition, Rowell et al. (2014) described using Pyle's (2007)

group career counseling model to improve career decision-making in college students. The authors noted it is a multi-theoretical framework that consists of four distinct stages that help college students with cognitive and affective goals in each stage while the career counselor utilizes specific counseling skills in each stage. These four stages are: encounter, exploration, working, and action. In the first stage, the career counselor makes the students feel comfortable, clarify expectations, and uses attending skills to create a group climate. Second stage is the career counselors helping members learn about the world of work and explain how personality, value, interest, and ability impact career decision-making by displaying empathy, probing, self-disclosing, circling, and linking . Career counselors in the third stage display advanced empathy, challenge members discrepancies, facilitate feedback, and process experiences and new information by the members. The career counselor in the last stage, draws conclusions, sets goals, and brings closure with members. Pyle (2007) provides career counselors scripts that include in-sessions activities and homework for undergraduate college students.

Career counselors who administer the CMI Form C can tailor the interventions specifically to the needs of first-year college students that focus on career concern, curiosity, or confidence. Savickas and Porfeli (2011) mentioned that students who had low scores in these sub categories could administer the Self-Directed Search to explore the ideas about the world of work; however, those students who score high could be administered the Strong Interest Inventory to explore their interests based on their personality. In addition, I think you could also administer the ASCS-SF along with the CMI Form C as additional resources to help first-year students. Reynolds et al. (2012) and Reynolds (1988) described how the ASCS-SF can be used as an instrument to identify and help college students with school-related attitudes. The career counselor can identify the self-perception of a student's attitude on how well they believe they

are doing in the classroom and compare and contrast it to the perceptions of how others such as teachers and peers view them as a student. This is so, especially because some first-year students may have trouble fitting in during the transition to higher education. The ASCS-SF and the CMI Form C could be made mandatory for first-year students to complete for those who are in an FYCLP. Structuring a campus community-wide program for students in an FYCLP to visit a career counselor for a minimum number of sessions could be useful to help them identify career interests and accomplish career-directed goals. Also, career counselors could conduct workshops and group counseling sessions to help first-year students identify different aspects of career decision-making that could also help improve school-related attitudes as well. Online workshops could provide a series of modules that focus on career readiness, career concern, confidence, decision-making, attitudes related to school, and how to plan for a vocational future. The campus community-wide program under the FYCLP can also create a referral system to help academic support staff identify first-year students who need help with the career-decision-making process.

Career counselors should also make note of the recent COVID-19 pandemic that has impacted students' academic and vocational lives. Although 63 % of first-year college students reported not having career concerns with the COVID-19 pandemic, it is still important to note that the data was collected during the beginning of the pandemic. After a full year, it is possible that more first-year student's attitudes towards career concerns have shifted the other way. For example, after a while some students may have feared that certain majors may not be a viable option to pursue because the pandemic has impacted the economic market for those future occupations. Other students may question if it is even reasonable to attend college right now during this pandemic as they may be concerned about their physical well-being and may want to stay isolated. Other students may experience mental health issues while being at home due to

long periods of isolation and loneliness as they try to pursue a career through distance learning. It is important that career counselors listen to first-year college students' career concerns for they may be also experiencing anxiety, frustration, apprehension, and/or hopelessness about their vocational future during this historical event. Another statistic to note in the sample is that a large percentage (67%) of participants reported not working. This sample, collected during the start of the pandemic, is not consistent with historical trends at TAMU-CC that show most students working part- or full-time during their enrollment. Another possible contributing factor in why first-year college students reported not working because they were probably afraid to contract the virus and infect a loved one. Little was known about the Covid-19 virus at the time so students choose to be safe and decided to isolate in their homes for the time being. When more was known about Covid-19 and more protective measures were put into place students may have become more comfortable working during the pandemic. Also, it is possible that more first-year college students are curious about working part-time to support their family, so career counselors may provide information about the gig economy (e.g., Uber, Shipt, Fiverr, etc.). Lastly, it might also be wise for career counselors to explore careers that are lesser known or consider new types of occupations that were created during and after the pandemic with first-year college students.

Academic Support Staff

Typically, first-year seminar instructors involved in a community's program are the first line of defense for first-year college students as they interact with these students most during their time on campus. For context, the participants involved in this research study were from an innovative and nationally recognized community program. First-year seminar instructors can be trained to identify and refer first-year students out to career counselors for additional support

related to school attitudes and career readiness to improve career decision-making. They could discuss topics related to career decision-making prior to class starting or incorporate it during their classroom instruction. For example, instructors could conduct an informal survey about what career/major the students would like to pursue and discuss with the students how they are going to achieve that goal. Also, first-year seminar instructors can discuss with students what resources are available to them on campus to help them be informed about the career decision-making process. Directing them to the career services center at their respective university and schedule an appointment with a career counselor can be the first step in deciding on and exploring different careers. However, first-year college students may be inclined to forgo these resources because they might feel obligated to attend, focused primarily on academics, or lack motivation to explore a career because they can always go next semester.

First year instructors must be sold on the idea of how important career development is with students and encouraging them that exploring careers as soon as possible will help with the decision on what major to pursue if they are undecided. In addition, administrators who make budget decisions related to the curriculum and set the programming for these community programs can create a training structure for first-year seminar instructors, peer mentors, career counselors, and/or counselors-in-training (CIT) on campus to provide the best support for these students.

Also, administrators can coordinate activities or programs, such as retrieving and presenting data related to academic and career outcomes to assist in career decision-making. For example, in response to a recent survey, Galvan and Negrete (2017) developed an evidenced-based career literacy program that promoted early career planning and exploration with career decision-making for freshmen students. With the help of career counselors, peer mentors were

trained to provide career planning tools at Texas A&M University-Kingsville (TAMU-K) that helped students pursue their academic goals. First-time college students would meet with a peer mentor to discuss a variety of academic programs in relation to each major. The objective was to increase the number of underclassmen utilizing career-decision-making resources (Galvan & Negrete, 2017). The authors mentioned mentors exploring career decision-making by using sample questions such as:

- Did you take a career assessment to explore your interests as they relate to majors and jobs?
- What careers are related to your major?
- Do you need an advanced degree to pursue your intended career choice?
- Do you know where to find internship and job postings?
- Have you met with a career advisor?

Lastly, college administrators who work directly with first-year seminar instructors can reach out to the College of Education and speak with counselor educators about opportunities for CIT's to work with first-year college students or conduct workshops that focus on career choice, career exploration, and goal setting. Administrators may also consider organizing and offering a career planning class for first-year college students that can be used as an elective course to also help offset the load for career counselors especially if there is a huge first-year college student population. Suggesting that elective courses may bring in first-year college students who are motivated to persist academically because it would count toward their degree and can be seen as a learning opportunity for exploring career choices and career skills. Administrators can also collaborate with counselor educators by creating their own career literacy programs such as one developed by Galvan and Negrete (2017) to provide an evidenced-based approach based on the

needs of first-year college students where CIT's can utilize their skills during practicum and internship at these community programs. Lastly, first-year students may be less hesitant to work with a peer mentor and open up about the career decision-making process.

Limitations

This hierarchical regression study provides additional information to the literature on the career development process of first-year college students. As mentioned earlier, this hierarchical regression study may be affected by limitations, either unforeseen by the researcher or because the researcher had no control over certain factors.

The first limitation is that the participants' responses with these instruments were self-reported. Due to this self-report status, it is not evident how truthful and accurate these responses were in terms of the instruments used. However, I one can assume that each participant answered to the best of their ability at that moment. It is possible that some students felt rushed or felt the need to answer according to what they thought the researcher wanted to know. Other factors may have contributed, such as, for example, genuine interest in the topic, motivation to complete the task, and potential extra credit from the instructor. Generally students who may not be interested in the material related to the topic may not take the adequate time to answer each question thoughtfully. Students who lack motivation to complete the survey may input answers that are not appropriate for them. Lastly, students who were not motivated to complete the survey may have done so because the extra credit incentivized them to answer randomly without much thought.

The second limitation was that the researcher used the non-probability sampling procedure, convenience sampling. This sampling technique is not as rigorous when compared to random sampling procedures. The researcher chose the convenience sampling procedure because

of the accessibility it afforded to participants. Participants enrolled at the FYCLP were easily accessible and thus made it convenient to gather the sample with the help of instructors through Blackboard and Qualtrics.

The third limitation was that the researcher chose a sample from only one location in south Texas at an FYLCP, therefore leading to possible cultural concerns of familism with other diverse populations. Fifty eight percent of participants were not of Hispanic, Latino(a), or of Spanish origin ($n = 53$). It is impossible to tell if the demographic represented in this study espoused collectivistic values however, it was found that familismo was not a statistically significant factor.

The last limitation was that the researcher did not include gender-inclusive language in the demographic questionnaire that was provided to the participants in this study. Only male and female gender options were available to be selected by participants, however a non-binary option, not listed fill in the blank option, and prefer not to reply option should have been available as this may have impacted some participants. Also, the researcher should have provided an option where participants could indicate their own personal pronouns. The researcher understands how important inclusivity is and recognizes the diversity of gender expression among all participants.

Suggestions for Future Research

In this research study, only 42% of the participants in the sample identified as Hispanic, Latino(a), or Spanish origin ($n = 38$). Meaning that in future studies, researchers could gather larger samples that specifically collect and identify only participants of Hispanic, Latino(a), or Spanish origin with regards to familismo with the other variables in the study. In addition, it is important that the researcher includes gender-inclusive language in the demographic

questionnaire in further research studies. This is important to ensure that the researcher promotes gender equality and remove any gender bias. Lastly, the researcher wants to make sure that the participants feel heard and values their diverse backgrounds.

Furthermore, the researcher only collected a sample of first-year students from a FYLCP at a university setting. It is also important to collect samples of first-year college students who transitioned from different educational institutions outside of a university setting like a technical school or community college that can provide a broader range of diverse individuals. According to the U.S. Department of Education (2019) 37% of high school students are seeking out career and technical education (CTE) that may lead to additional training right after graduation which culminates in specialized certifications, apprenticeships, or employment. However, these students may still be undecided on choosing a particular technical profession in that field. Also, there are 30 million jobs that do not require a bachelor's degree which pay average salaries of 55,000 dollars a year thus creating a competitive economic market for these positions as employers seek out individuals with these specialized skills (U.S. Department of Education, 2019). According to the National Center for Education Statistics (2019) reported that in 1999 only 9.6 million students were in trade schools or 2-year institutions but as of 2014 this number increased to 16 million students. Suggesting that more students are now looking to pursue a specific skill set and enter the workforce as soon as possible. Additionally, first-year college students located in different settings may have a different set of challenges with the career development process. For example, older students in trade schools may have family obligations, have a lack of time due to rigorous schedules, seek to remain competitive in the workplace, typically pay for their own tuition, concerns with retirement, and are seeking a specific job skill. The U.S. Department of Education (2018) reported that in the fall of 2017 57% of students older

than 25 attended 2-year private nonprofit institutions and 55% of students older than 25 attended 2-year private for-profit institutions. Suggesting that researchers should look to conduct studies with this population because a good segment of older students are pursuing their education than those who just graduated from high school at these 2-year institutions.

Also, the researcher mentioned how achievement motivation and familismo were not statistically significant variables in this hierarchical regression analysis, however, that should not discourage future research to focus on all four predictor variables with the criterion variable of career indecision. Lastly, as mentioned earlier, the COVID-19 pandemic may have long lasting effects for years to come and it may be reasonable for researchers to conduct studies that learn about the impact regarding the career development process with first-year college students about the uncertainty of the world of work.

Conclusion

This predictive quantitative study examined to what extent that career maturity, academic self-concept, familismo, and achievement motivation support first-year college students' career decision-making. Instruments such as the Career Maturity Inventory, Academic Self-Concept Scale-Short Form, The Pan-Hispanic Familism Scale, Achievement Motivation Measure, and the Career Decision Scale were used to analyze the research questions with first-year college students. The results suggested that career maturity and academic self-concept significantly predict career indecision. However, achievement motivation and familismo were not significant predictors of career indecision. Overall, findings of the study can supply a benefit for stakeholders who have a direct impact on career decision-making with first-year college students, such as career counselors, faculty, and other academic support staff.

REFERENCES

- Alam, M. (2016). Home environment and academic self-concept as predictors of career maturity. *IRA International Journal of Education and Multidisciplinary Studies*, 4, 359-372.
<https://doi.org/10.21013/jems.v4.n3.p2>
- American College Health Association. (2019). *National college health assessment: Reference group report*. https://www.acha.org/NCHA/ACHA-NCHA_Data/Publications_and_Reports/NCHA/Data/Reports_ACHA-NCHAIIc.aspx
- American Psychological Association. (2019). *Publication Manual of the American Psychological Association* (7th ed.). Washington, DC: Author.
- Anastasiu, I. (2012). The social functions of the family. *Euromentor Journal Studies About Education*, 3, 133-139.
- Andujar, A. (2006). *Career counseling Latinas: Enhancing career services for Latinas on campus* [Doctoral dissertation].
<https://digitalcommons.brockport.edu/cgi/viewcontent.cgi?article=1002&context=theses>
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64, 359-372.
- Atkinson, J. W. (1964). *An introduction to motivation*. Princeton, NJ: Van Nostrand.
- Atkinson, J. W., & Feather, N. T. (Eds.). (1966). *A theory of achievement motivation*. New York, NY: John Wiley and Sons, Inc.
- Awang, M., Kutty, F. & Ahmad, A. (2014). Perceived social support and well-being: First-year student experience in university. *International Education Studies*, 7, 261-270.
<https://doi.org/10.5539/ies.v7n13p261>

- Balkin, R. S., & Kleist, D. M. (2017). *Counselor research: A practitioner-scholar approach*. Alexandria, VA: American Counseling Association.
- Baker, T. N. (2017). *The impact of undergraduate research participation on research self-efficacy* (Order No. 10642999). Available from ProQuest Central; ProQuest Dissertations & Theses Global; Social Science Premium Collection. (2020854498). Retrieved from <https://manowar.tamucc.edu/login?url=https://www.proquest.com/dissertations-theses/impact-undergraduate-research-participation-on/docview/2020854498/se-2?accountid=7084>
- Bandura, A. (1971). *Social learning theory*. New York: General Learning Press.
- Bandura, A. (1999). *Social cognitive theory of personality*. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (p. 154–196). Guilford Press.
- Bardis, P. (1959a). A familism scale. *Marriage and Family Living*, 21, 340-341.
- Bardis, P. (1959b). A comparative study of familism. *Rural Sociology*, 24, 362-371.
- Bavdekar, S. B. (2015). Using tables and graphs for reporting data. *Journal of the Association of Physicians of India*, 63, 59-63.
- Beggs, J., Bantham, J., & Taylor, S. (2008). Distinguishing the factors influencing college students' choice of major. *College Student Journal*, 42, 381-394.
- Beheshtifar, M., & Esmaeli, Z., & Hashemi-Nasab, H. (2012). Positive self-concept: A vital factor to overcome career indecision. *Science Series Data Report*, 4, 126-133.
- Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education* 40, 641-664.

- Betz, N. E., & Hackett, G. (1981). The relationship of career-related self-efficacy expectation to perceived career options in college women and men. *Journal of Counseling Psychology*, 28, 399-410.
- Betz, N. E., & Hackett, G. (1997). Applications of self-efficacy theory to the career development of women. *Journal of Career Assessment*, 5, 383-402.
- Blustein, D. L. (1989). The development and validation of a two-dimensional model of the commitment to career choices process. *Journal of Vocational Behavior*, 35, 342–378.
- Bong, M., & Skaalvik, E. (2003). Academic self-concept and self-efficacy: How different are they really?. *Educational Psychology*, 15, 1-40.
<https://doi.org/10.1023/A:1021302408382>
- Brookover, W. B., Paterson, A., & Thomas, S. (1962). *Self-concept of ability and school achievement* (845). USOE Cooperative Research Project.
- Brown, S. D., & Lent, R. W. (2012). *Career development and counseling: Putting theory and research to work* (2nd ed.). Hoboken, NJ: John Wiley & Sons.
- Brown, S. D., Lent, R. W., Telander, K., & Tramayne, S. (2011). Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis. *Journal of Vocational Behavior*, 79, 81-90. <https://doi.org/10.1016/j.jvb.2010.11.009>
- Brown, S. D., & Ryan Krane, N. E. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In S. D. Brown, & R. W. Lent (Eds.), *Handbook of counseling psychology* (pp. 740–766) (3rd ed.). New York: Wiley.
- Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., & Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and persistence:

- A meta-analytic path analysis. *Journal of Vocational Behavior*, 72, 298-308.
<https://doi.org/10.1016/j.jvb.2007.09.003>
- Busacca, L. A., & Taber, B. J. (2002). The Career maturity inventory–revised: A preliminary psychometric investigation. *Journal of Career Assessment*, 10, 441-455.
<https://doi.org/10.1177/1069072702238406>
- Byars-Winston, A., Estrada, Y., Howard, C., Davis, D., & Zalapa, J. (2010). Influence of social cognitive ethnic variables on academic goals of underrepresented students in science and engineering: A multiple-groups analysis. *Journal of Counseling Psychology*, 57, 205-218. <https://doi.org/10.1037/a0018608>
- Byars-Winston, A. M., & Fouad, N. A. (2008). Math and science social cognitive variables in college students: Contributions of contextual factors in predicting goals. *Journal of Career Assessment*, 16, 425-440. <https://doi.org/10.1177/1069072708318901>
- Calzada, E. J., Tamis-LeMonda, C. S., & Yoshikawa, H. (2013). Familismo in Mexican and Dominican families from low-income, urban communities. *Journal of Family Issues*, 34, 1696-1724. <https://doi.org/10.1177/0192513X12460218>
- Campos, B., Ullman, J. B., Aguilera, A., & Dunkel Schetter, C. (2014). Familism and psychological health: The intervening role of closeness and social support. *Cultural Diversity & Ethnic Minority Psychology*, 20, 191-201. <https://doi.org/10.1037/a0034094>
- Cole, D., Newman, C. B., & Hypolite, L. I. (2020). Sense of belonging and mattering among two cohorts of first-year students participating in a comprehensive college transition program. *American Behavioral Scientist*, 64, 276-297. <https://doi.org/10.1177/0002764219869417>
- College Atlas. (2018, June 29). U.S. college dropout rate and dropout statistics. Retrieved from <https://www.collegeatlas.org/college-dropout.html>

- Coertse, S., & Schepers, J. (2004). Some personality and cognitive correlates of career maturity. *SA Journal of Industrial Psychology, 30*, 56-73. <https://doi.org/10.4102/sajip.v30i2.150>
- Conley, D. T. (2008). Rethinking college readiness. *New Directions for Higher Education, 144*, 3-13. <https://doi.org/10.1002/he.321>
- Cook, E. P. (1991). Annual review: Practice and research in career counseling and development, 1990. *Career Development Quarterly, 39*, 99-131. <https://doi.org/10.1002/j.2161-0045.1991.tb00317.x>
- Creed, P.A., & Patton, W. (2003). Predicting two components of career maturity in school based adolescents. *Journal of Career Development, 29*, 277-290. <https://doi.org/10.1177/089484530302900405>
- Crites, J. O. (1974). Career development processes: A model of vocational maturity. In E. L. Herr (ed.). *Vocational guidance and human development* (pp. 296-320). Boston, MA: Houghton Mifflin.
- Crites, J. O. (1976). A comprehensive model of career development in early adulthood. *Journal of Vocational Behavior, 9*, 105-118. [https://doi.org/10.1016/0001-8791\(76\)90012-9](https://doi.org/10.1016/0001-8791(76)90012-9)
- Crites, J. O. (1981). *Career counseling: Models, methods, and materials*. New York: McGraw-Hill.
- Cureton, E. E. (1966). Kuder-Richardson Reliabilities of Classroom Tests. *Educational and Psychological Measurement, 26*, 13-14. <https://doi.org/10.1177/001316446602600102>
- Daniels, L., Stewart, T., Stupnisky, R., & Perry, R., & LoVerso, T. (2011). Relieving career anxiety and indecision: The role of undergraduate students' perceived control and faculty affiliations. *Social Psychology of Education, 14*, 409-426. <https://doi.org/10.1007/s11218-010-9151-x>

- DeDonno, M., & Fagan, J. (2013). The influence of family attributes on college students' academic self-concept. *North American Journal of Psychology, 15*, 49-62.
- Desmond, M., & Turley, R. (2009). The role of familism in explaining the Hispanic-White college application gap. *Social Problems, 56*, 311-334.
<https://doi.org/10.1525/sp.2009.56.2.311>
- Dickinson, J., Abrams, M. D., & Tokar, D. M. (2017). An examination of the applicability of social cognitive career theory for African American college students. *Journal of Career Assessment, 27*, 75-92. <https://doi.org/10.1177/1069072716658648>
- Dimitrov, D. M. (2009). *Quantitative Research in education: Intermediate & Advanced methods*. Oceanside, New York: Whittier Publications, Inc.
- Dimitrova, D. S., Kaishev, V. K., & Tan, S. (2020). Computing the Kolmogorov-Smirnov distribution when the underlying CDF is purely discrete, mixed, or continuous. *Journal of Statistical Software, 95*, 1-42. <https://doi.org/10.18637/jss.v095.i10>
- Eekhout, I., de Boer, R. M., Twisk, J. W., de Vet, H. C., & Heymans, M. W. (2012). Missing data: a systematic review of how they are reported and handled. *Epidemiology (Cambridge, Mass.), 23*, 729–732. <https://doi.org/10.1097/EDE.0b013e3182576cdb>
- Emerson, H. C. (2017). *A longitudinal study of career maturity and career decision-making self-efficacy of rural secondary school students* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.

- Feldman, D. C. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review*, 13, 499-531.
[https://doi.org/10.1016/S1053-4822\(03\)00048-2](https://doi.org/10.1016/S1053-4822(03)00048-2)
- Ferguson, P. A. (2007). *A relationship between career decision and motivation to persist* (Doctoral dissertation, University of Central Florida). Retrieved from
<http://stars.library.ucf.edu/cgi/viewcontent.cgi?article=4157&context=etd>
- Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. *Learning and Individual Differences*, 19, 499-505.
<https://doi.org/10.1016/j.lindif.2009.05.004>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Thousand Oaks, CA: SAGE.
- First-Year Learning Communities Program. (2020). *Frequently asked questions*.
<https://ucoll.tamucc.edu/FYLCP/faq-accordion.html>
- Flores, L. Y., & O'Brien, K. M. (2002). The career development of Mexican American adolescent women: A test of social cognitive theory. *Journal of Counseling Psychology*, 49, 14-27. <https://doi.org/10.1037/0022-0167.49.1.14>
- Freedman, L. (2013). The developmental disconnect in choosing a major: Why institutions should prohibit choice until second year. *The Mentor: Innovative Scholarship On Academic Advising*, 15. <https://doi.org/10.26209/MJ1561278>
- Gaines, S. O., Jr., Marelich, W. D., Bledsoe, K. L., Steers, W. N., Henderson, M. C., Granrose, C. S. et al. (1997). Links between race/ethnicity and cultural values as mediated by racial/ethnic identity and moderated by gender. *Journal of Personality and Social Psychology*, 72, 1460-1476. <https://doi.org/10.1037/0022-3514.72.6.1460>

- Gallo, J. L. (2017). *The effect of an interdisciplinary career exploration course on college students' career decision-making and career decision-making self-efficacy* [Doctoral dissertation].
[https://fgcu.digital.flvc.org/islandora/object/fgcu%3A30550/datastream/OBJ/download/The effect of an interdisciplinary career exploration course on college students career decision-making and career decision-making self-efficacy.pdf](https://fgcu.digital.flvc.org/islandora/object/fgcu%3A30550/datastream/OBJ/download/The%20effect%20of%20an%20interdisciplinary%20career%20exploration%20course%20on%20college%20students%20career%20decision-making%20and%20career%20decision-making%20self-efficacy.pdf)
- Galvan, A. M., & Negrete, A. (2017). *Responding to students' career development needs by promoting career literacy*. The National Career Development Association.
https://www.ncda.org/aws/NCDA/pt/sd/news_article/143755/PARENT/CC_layout_details/false
- Garriott, P. O., Navarro, R. L., & Flores, L. Y. (2017). First-generation college students' persistence in engineering majors. *Journal of Career Assessment*, 27, 93-106.
<https://doi.org/10.1177/1069072716657533>
- Garson, D. G. (2013). *Testing statistical assumptions* (7th ed.). Statistical Publishing Associates.
- Gati I., Krausz M., & Osipow S. H. (1996). A taxonomy of difficulties in career decision-making. *Journal of Counseling Psychology*, 43, 510-526. <https://doi.org/10.1037/0022-0167.43.4.510>
- Germeijs, V., Verschueren, K., & Soenens, B. (2006). Indecisiveness and high school students' career decision-making process: Longitudinal associations and the mediational role of anxiety. *Journal of Counseling Psychology*, 53, 397-410. <https://doi.org/10.1037/0022-0167.53.4.397>
- Gianakos, I. (2001). Predictors of career decision-making self-efficacy. *Journal of Career Assessment*, 9, 101-114. <https://doi.org/10.1177/106907270100900201>

- Gil, A. G., Wagner, E. F., & Vega, W. A. (2000). Acculturation, familism and alcohol use among Latino adolescent males: Longitudinal relations. *Journal of Community Psychology*, 28, 443-458. [https://doi.org/10.1002/1520-6629\(200007\)28:4<443::AID-JCOP6>3.0.CO;2-A](https://doi.org/10.1002/1520-6629(200007)28:4<443::AID-JCOP6>3.0.CO;2-A)
- Gordan, L., & Meyer, J. C. (2002). Career indecision amongst prospective students. *South African Journal of Psychology*, 32, 41-47. <https://doi.org/10.1177/008124630203200405>
- Guay, F., Larose, S., & Boivin, M. (2004). Academic self-concept and educational attainment level: A ten-year longitudinal study. *Self and Identity*, 3, 53-68. <https://doi.org/10.1080/13576500342000040>
- Guay, F., Marsh, H. W., & Boivin, M. (2003). Academic self-concept and achievement: Developmental perspective on their causal ordering. *Journal of Educational Psychology*, 95, 124-136. <https://doi.org/10.1037/0022-0663.95.1.124>
- Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18, 326-339. [https://doi.org/10.1016/0001-8791\(81\)90019-1](https://doi.org/10.1016/0001-8791(81)90019-1)
- Hackett, G., & Byars, A. M. (1996). Social cognitive theory and the career development of African American women. *The Career Development Quarterly*, 44, 322-340. <https://doi.org/10.1002/j.2161-0045.1996.tb00449.x>
- Haktanir, A., Watson, J. C., Ermis-Demirtas, H., Karaman, M. A., Freeman, P. D., Kumaran, A., & Streeter, A. (2018). Resilience, academic self-concept, and college adjustment among first-year students. *Journal of College Student Retention: Research, Theory & Practice*, 0(0), 1-18. <https://doi.org/10.1177/1521025118810666>

- Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., & Elliot, A. J. (1997). Predictors and consequences of achievement goals in the college classroom: Maintaining interest and making the grade. *Journal of Personality and Social Psychology*, 73, 1284-1295. <https://doi.org/10.1037//0022-3514.73.6.1284>
- Heppner, P.P., Wampold, B.E., & Kivlighan, D.M. (2008). *Research Design in Counseling*. Belmont, CA: Thomson Higher Education.
- Hernández, M. M., & Bámaca-Colbert, M. Y. (2016). A behavioral process model of familism. *Journal of Family Theory & Review*, 8, 463-483. <https://doi.org/10.1111/jftr.12166>
- Herren C. D., Cartmell II., D. and Robertson. J. T. (2011). Perceptions of influence on college choice by students enrolled in a college of agricultural sciences and natural resources. *NACTA Jour*, 55, 54-61.
- Hooja, H. R., & Shaktawat, P. (2017). The role of home environment and achievement motivation on psychological well-being among school going children. *Indian Journal of Health and Well-Being*, 8, 697-706.
- House, J. D. (1993). Achievement-related expectancies, academic self-concept, and mathematics performance of academically underprepared adolescent students. *The Journal of Genetic Psychology: Research and Theory on Human Development*, 154, 61-71. <https://doi.org/10.1080/00221325.1993.9914722>
- Hoyt, W. T., Leierer, S., & Millington, M. J. (2006). Analysis and interpretation of findings using multiple regression techniques. *Rehabilitation Counseling Bulletin*, 49, 223-233. <https://doi.org/10.1177/00343552060490040401>

Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using linear generalized models*. Sage Publication, Thousand Oaks, CA.

<https://doi.org/10.4135/9780857028075>

Ibañez, G. E., Kuperminc, G. P., Jurkovic, G., & Perilla, J. (2004). Cultural attributes and adaptations linked to achievement motivation among Latino adolescents. *Journal of Youth and Adolescence*, 33, 559-568.

<https://doi.org/10.1023/B:JOYO.0000048069.22681.2c>

IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.

Isik, E. (2013). Perceived social support and locus of control as the predictors of vocational outcome expectations. *Educational Sciences: Theory & Practice*, 13, 1426-1430.

<https://doi.org/10.12738/estp.2013.3.1520>

Istiana. (2017). The relationship between self concepts and career maturity viewed from students' gender. *Journal of Humanities and Social Science*, 22, 56-66.

<https://doi.org/10.9790/0837-2209035666>

Johnson, D. R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H. T., & Longerbeam, S. D. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, 48, 525-542.

<https://doi.org/10.1353/csd.2007.0054>

Keefe, S. E., Padilla, A. M., & Carlos, M. L. (1979). The Mexican-American extended family as an emotional support system. *Human Organization*, 38, 144-152.

<https://doi.org/10.1525/ae.1979.6.2.02a00070>

- Keith, T. M. (2019). *Multiple regression and beyond: An introduction to multiple regression and structural equation modeling* (3rd ed.). Taylor & Francis.
- Kelly, K. R., & Lee, W. (2002). Mapping the domain of career decision problems. *Journal of Vocational Behavior, 61*, 302-326. <https://doi.org/10.1006/jvbe.2001.1858>
- Kim, B., Jang, S.H., Jung, S.H., Lee, B.H., Puig, A., & Lee, S.M. (2014). A moderated mediation model of planned happenstance skills, career engagement, career decision self-efficacy, and career decision certainty. *Career Development Quarterly, 62*, 56-69. <https://doi.org/10.1002/j.2161-0045.2014.00070.x>
- King, S. (1989). Sex difference in a causal model of career maturity. *Journal of Counseling & Development, 68*, 208-215. <https://doi.org/10.1002/j.1556-6676.1989.tb01359.x>
- Kleiman, T., Gati, I., Peterson, G., Sampson, J., Reardon, J., & Lenz, J. (2004). Dysfunctional thinking and difficulties in career decision making. *Journal of Career Assessment, 12*, 312–331. <https://doi.org/10.1177/1069072704266673>
- Knight G. P., Gonzales N. A., Saenz D. S., Bonds D. D., German M., Deardorff J., Roosa M. W., & Updegraff K. A. (2010). The Mexican American cultural values scales for adolescents and adults. *Journal of Early Adolescents, 30*, 444–481. <https://doi.org/10.1177/0272431609338178>
- Krieshok, T. S., Black, M. D., & McKay, R. A. (2009). Career decision making: The limits of rationality and the abundance of non-conscious processes. *Journal of Vocational Behavior, 75*, 275-290. <https://doi.org/10.1016/j.jvb.2009.04.006>
- Langley, R., Du Toit, R., & Herbst, DL. (1992). *Manual for the career development questionnaire (CDQ)*. Pretoria: Human Sciences Research Council.
- Lee, H. Y., & Hughey, K. F. (2001). The relationship of psychological separation and parental

- attachment to the career maturity of college freshman from intact families. *Journal of Career Development*, 27, 279–293. <https://doi.org/10.1023A:1007855104473>
- Lent, R. W., & Brown, S. D. (2017). Social cognitive career theory in a diverse world: Guest editors' introduction. *Journal of Career Assessment*, 25, 3-5.
<https://doi.org/10.1177/1069072716657811>
- Lent, R. W., Brown, S. D., Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79-122. <https://doi.org/10.1006/jvbe.1994.1027>
- Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36-49. <https://doi.org/10.1037//0022-0167.47.1.36>
- Lent, R. W., & Wang, R. J., & Morris, T., & Ireland, G. W., & Penn, L. T. (2019). Viewing the career indecision profile within a theoretical context: Application of the social cognitive career self-management model. *Journal of Counseling Psychology*, 66, 690-700.
<https://doi.org/10.1037/cou0000367>
- Levinson, E. M., Ohler, D. L., Caswell, S., & Kiewra, K. (1998). Six approaches to the assessment of career maturity. *Journal of Counseling and Development*, 76, 475-482.
<https://doi.org/10.1002/j.1556-6676.1998.tb02707.x>
- Lipshits-Braziler, Y., Gati, I., & Tatar, M. (2016). Strategies for coping with career indecision. *Journal of Career Assessment*, 24, 42–66.
<https://doi.org/10.1177/1069072714566795>

- Marsh, H. W., & Craven, R. (1997). Academic self-concept: Beyond the dustbowl. In G. D. Phye (Ed.), *Educational psychology series. Handbook of classroom assessment: Learning, achievement, and adjustment* (pp. 131-198). San Diego, CA, US: Academic Press.
- Marsh, H. W., Byrne, B. M., & Shavelson, R. J. (1988). A multifaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology*, 80, 366-380. <https://doi.org/10.1037/0022-0663.80.3.366>
- Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist*, 20, 107-123. https://doi.org/10.1207/s15326985ep2003_1
- Matovu, M. (2014). A structural equation modelling of the academic self-concept scale. *International Electronic Journal of Elementary Education*, 6, 185-198.
- McCaffrey, S., Miller, T., & Winston, R. (1984). Comparison of career maturity among graduate students and undergraduates. *Journal of College Student Personnel*, 25, 127-132.
- McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McClelland, D. C. (1965). Toward a theory of motive acquisition. *American Psychologist*, 20, 321-333.
- Migunde, Q., Othuon, L., & Mbagaya, C. (2015). Moderating role of age on the relationship between career readiness and career indecision. *British Journal of Psychology Research*, 3, 42-50.
- Millea, M., Wills, R., Elder, A., & Molina, D. (2018). What matters in college student success? Determinants of college retention and graduation rates. *Education*, 138, 309-322.
- Miller, A. D., & Rottinghaus, P. J. (2014). Career indecision, meaning in life, and anxiety: An existential framework. *Journal of Career Assessment*, 22, 233-247. <https://doi.org/10.1177/1069072713493763>

- Mohammadnia, Z., Sepehrianazar, F., & Akbari, M. (2017). A structural modeling analysis of the relationship between personality traits and achievement motivation: The meditational role thinking style type 1. *Journal of Educational Sciences & Psychology, 7*, 65-74.
- Morgan, T., & Ness, D. (2003). Career decision-making difficulties of first-year students. *The Canadian Journal of Career Development, 2*, 33-39.
- Naidoo, A. V. (1998). Career maturity: A review of four decades of research. *Information Analyses, 06*, 1-41.
- Naidoo, A. V., Bowman, S. L., & Gerstein, L. H. (1998). Demographics, causality, work salience, and the career maturity of African-American students: A causal model. *Journal of Vocational Behavior, 53*, 15-27. <https://doi.org/10.1006/jvbe.1997.1586>
- National Center for Education Statistics. (2021). *College Navigator*. Institute of Education Sciences.
<https://nces.ed.gov/collegenavigator/?s=all&zc=78414&zd=50&of=3&id=224147#enrolmt>
- National Center for Education Statistics (NCES). (2017). Percentage of 2011–12 first time postsecondary students who had ever declared a major in an associate’s or bachelor’s degree program within 3 Years of enrollment, by type of degree program and control of first Institution: 2014. Institute of Education Sciences, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/datapoints/2018434.asp>
- Nauta, M. M. (2012). Temporal stability, correlates, and longitudinal outcomes of career indecision factors. *Journal of Career Development, 39*, 540-558.
<https://doi.org/10.1177/0894845311410566>
- Núñez, J., González-Pineda, J., García, M., González-Pumariega, S., Roces, C., Álvarez,

- L., & González, M. C. (1998). Estrategias de aprendizaje, autoconcepto y rendimiento académico. *Psicothema, 10*, 97-109.
- Onivehn, A. O. (1991). The relative influence of sex and self-concept on career maturity of Nigerian adolescents. *The Nigerian Journal of Guidance and Counseling, 4*, 45-52.
- Osborne, J. W., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research, and Evaluation, 8*, 1-5.
<https://doi.org/10.7275/r222-hv23>
- Osipow, S.H. (1987) *Career decision scale manual*. Odessa, FL: Psychological Assessment Resources.
- Osipow, S. H. (1999). Assessing career indecision. *Journal of Vocational Behavior, 55*, 147-154.
<https://doi.org/10.1006/jvbe.1999.1704>
- Osipow, S. H., Carney, C. G., Winer, J. L., Yanico, B., & Koschier, M. (1976). *The Career Decision Scale* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- Osipow, S. H., & Winer, J. L. (1996). The use of the career decision scale in career assessment. *Journal of Career Assessment, 4*, 117–130. <https://doi.org/10.1177/106907279600400201>
- Peugh, J. L., & Enders, C. K. (2004). Missing data in educational research: A review of reporting practices and suggestions for improvement. *Review of Educational Research, 74*, 525-556. <https://doi.org/10.3102/00346543074004525>
- Pintrich, P., Roeser, R., & De Groot, E. (1994). Classroom and individual differences in early adolescents' motivation and self-regulated learning. *Journal of Early Adolescence, 14*, 139-161. <https://doi.org/10.1177/027243169401400204>

- Pisarik, C. T., Rowell, P. C., & Thompson, L. K. (2017). A phenomenological study of career anxiety among college students. *Career Development Quarterly*, 65, 339-352.
<https://doi.org/10.1002/cdq.12112>
- Prideaux, L., & Creed, P. A. (2001). Career maturity, career decision-making self-efficacy and career indecision: A review of the accrued evidence. *Australian Journal of Career Development*, 10, 7-12. <https://doi.org/10.1177/103841620101000303>
- Pyle, K. R. (2007). *Group career counseling: Practices and principles (National Career Development Association monograph series)*. Broken Arrow, OK: National Career Development Association.
- Reynolds, W. M. (1988). Measurement of academic self-concept in college students. *Journal of Personality Assessment*, 52, 223-240. https://doi.org/10.1207/s15327752jpa5202_4
- Reynolds, W. M., Ramirez, M. P., Magrina, A., & Allen, E. (1980). Initial development and validation of the academic self-concept scale. *Educational and Psychological Measurement*, 40, 1013-1016. <https://doi.org/10.1177/001316448004000428>
- Reynolds, W. M., & Wiseman, C., Gilman, L. (2012, April). *Reliability and validity of the academic self-concept scale short form*. Poster session presented at the Western Psychological Association Annual Conference, San Francisco, CA.
- Rowell, P. C., Mobley, A. K., Giordano, A. L., & Kemer, G. (2014). Examination of group counseling model of career decision-making for college students. *Journal of College Counseling*, 17, 163-174. <https://doi.org/10.1002/j.2161-1882.2014.00055.x>
- Ryan, R. M., & Deci, E. L. (2000). Extrinsic and intrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.
<https://doi.org/10.1006/ceps.1999.1020>

- Sabogal, F., Marin, G., Otero-Sabogal, R., & Marin, B.V. (1987). Latino familism and acculturation: What changes and what doesn't? *Hispanic Journal of Behavioral Sciences*, 9, 397-412. <https://doi.org/10.1177/07399863870094003>
- Saka, N., & Gati, I. (2007). Emotional and personality-related aspects of persistent career decision-making difficulties. *Journal of Vocational Behavior*, 71, 340-358. <https://doi.org/10.1016/j.jvb.2007.08.003>
- Saka, N., Gati, I., & Kelly, K. R. (2008). Emotional and personality-related aspects of career-decision-making difficulties. *Journal of Career Assessment*, 16, 403-424. <https://doi.org/10.1177/1069072708318900>
- Salami, S. O. (1997). Birth order, gender, family type and vocational preferences among IJMBE 'A' level science students. *Journal of Science Teaching and Learning*, 3, 32-42.
- Santos, P. J., Ferreira, J. A., & Gonçalves, C. M. (2014). Indecisiveness and career indecision: A test of a theoretical model. *Journal of Vocational Behavior*, 85, 106-114. <https://doi.org/10.1016/j.jvb.2014.05.004>
- Savickas, M. L. (1984). Career maturity: The construct and its measurement. *Vocational Guidance Quarterly*, 32, 222-231. <https://doi.org/10.1002/j.2164-585x.1984.tb01585.x>
- Savickas, M. L. (2010). Vocational counselling. In I. B. Weiner & W. E. Craighead (eds.), *Corsini's encyclopedia of psychology* (4th ed., pp. 1841–1844). Hoboken, NJ: Wiley.
- Savickas, M. L., & Porfeli, E. J. (2011). Revision of the career maturity inventory. *Journal of Career Assessment*, 19, 355-374. <https://doi.org/10.1177/1069072711409342>
- Schork, J. (2019). *Mean imputation for missing data (Example in R & SPSS)*. Statistics Globe. <https://statisticsglobe.com/mean-imputation-for-missing-data/>

- Schwartz, A. L. (2009). *Latinos' collectivism and self-disclosure in intercultural and intracultural friendships and acquaintanceships* [Master's thesis].
<https://digitalcommons.usu.edu/etd/475>
- Schwartz S. J. (2007). The applicability of familism to diverse ethnic groups: a preliminary study. *The Journal of social psychology, 147*, 101–118.
<https://doi.org/10.3200/SOCP.147.2.101-118>
- Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-concept validation of construct interpretations. *Review of Educational Research, 46*, 407-441.
<https://doi.org/10.2307/1170010>
- Sheu, H., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., & Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A meta-analytic path analysis. *Journal of Vocational Behavior, 76*, 252-264. <https://doi.org/10.1016/j.jvb.2009.10.015>
- Slaten, C. D., & Baskin, T. W. (2014). Examining the impact of peer and family belongingness on the career decision-making difficulties of young adults: A path analytic approach. *Journal of Career Assessment, 22*, 59-74.
<https://doi.org/10.1177/1069072713487857>
- Smith, R. L. (2011). *Achievement motivation training: An evidence-based approach to enhancing performance*. Retrieved from
http://counselingoutfitters.com/vistas/vistas11/Article_56.pdf
- Smith, R. L. (2015). A contextual measure of achievement motivation: Significance for research in counseling. Retrieved from http://counseling.org/knowledge-center/vistas./Article_14

- Smith, R. L., Karaman, M., Balkin, R. & Talwar, S. (2019). Psychometric properties and factor analyses of the achievement motivation measure, *British Journal Guidance and Counselling*, 1-13. <https://doi.org/10.1080/03069885.2019.1620173>
- Smith, W. D. (2015). *Effects of differentiation of self and proactive behaviors on career decision-making of college students* (Doctoral dissertation).
<http://hdl.handle.net/1969.6/636>
- Soiferman, L.K. (2017). *Students' perceptions of their first-year university experience: What universities need to know*. University of Winnipeg.
- Spokane, A. R. (1991). *Career intervention*. Englewood Cliffs, NJ: Prentice-Hall.
- Steidel, A. G. L., & Contreras, J. M. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences*, 25, 312-330.
<https://doi.org/10.1177/0739986303256912>
- Stein, G.L., Cupito, A., Mendez, J.L., Prandoni, J., Huq, N., & Westerberg, D. (2014). Familism through a developmental lens. *Journal of Latina/o Psychology*, 2, 224–250.
<https://doi.org/10.1037/lat0000025>
- Stevenson, S. J., & Lochbaum, M. R. (2008). Understanding exercise motivation: Examining the revised social-cognitive model of achievement motivation. *Journal of Sport Behavior*, 31, 389-412.
- Super, D. E. (1955). Transition: From vocational guidance to counseling psychology. *Journal of Counseling Psychology*, 2, 3-9. <https://doi.org/10.1037/h0041630>
- Super, D. E. 1980. A life-span, life-space approach to career development. *Journal of Vocational Behavior* 16, 282-298. [https://doi.org/10.1016/0001-8791\(80\)90056-1](https://doi.org/10.1016/0001-8791(80)90056-1)

- Super, D. E., & Nevill, D. D. (1984). Work role salience as a determinant of career maturity in high school students. *Journal of Vocational Behavior*, 25, 30-44.
[https://doi.org/10.1016/0001-8791\(84\)90034-4](https://doi.org/10.1016/0001-8791(84)90034-4)
- Super, D. E., & Overstreet, P. L. (1960). *The vocational maturity of ninth-grade boys*. New York, NY: Teachers College, Columbia University, Bureau of Publications.
- Sweet, J. A. (2018). *Predicting undergraduate student course success in a lecture capture quantitative methods course*. Available from Social Science Premium Collection. (2101892627; ED585836). Retrieved from
<https://manowar.tamucc.edu/login?url=https://www.proquest.com/dissertations-theses/predicting-undergraduate-student-course-success/docview/2101892627/se-2?accountid=7084> .
- Texas A&M University-Corpus Christi. (2019, May 7). *About us*. Retrieved from
http://www.tamucc.edu/about/?utm_source=topnav&utm_medium=tamucc.edu&utm_content=about_us
- Texas A&M University-Corpus Christi. (2020, August 8). *Learning communities*. Retrieved from <https://ucoll.tamucc.edu/FYLCF/learning-communities.html>
- Texas A&M University-Corpus Christi PIR. (2021, March 11). *Enrollment Classification*. Retrieved from
https://public.tableau.com/profile/tamucc.pir#!/vizhome/Enrollment_15690131724490/EnrollmentHeadcount?publish=yes
- Tracey, T. J. (2010). Relation of interest and self-efficacy occupational congruence and career choice certainty. *Journal of Vocational Behavior*, 76, 441-447.
<https://doi.org/10.1016/j.jvb.2009.10.013>

- Trombitas, K. (2012). *Inceptia snapshot of financial education programming: How schools approach student success*. Inceptia.
http://www.cgsnet.org/ckfinder/userfiles/files/Inceptia_FinEdSurvey_Whitepaper.pdf
- Trumbull, E., & Rothstein-Fisch, C. (2011). The intersection of culture and achievement motivation. *School Community Journal, 21*, 25-53.
- Tufte, E. (2001). *Visual display of quantitative information*. Cheshire, CT: Graphics Press.
- Turner, P., & Thompson, E. (2014). College retention initiatives meeting the needs of millennial freshman students. *College Student Journal, 48*, 94-104.
- Upcraft, M. L., Gardner, J. N., & Barefoot, B. O. (2005). *Challenging and supporting the first-year student: A handbook for improving the first year of college*. Jossey-Bass.
- U.S. Department of Education. (2019). *CTE data story*.
<https://www2.ed.gov/datastory/cte/index.html>.
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2018, Fall Enrollment component. See *Digest of Education Statistics 2019*, [table 303.50](#)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2001, Spring 2011, and Spring 2019, Fall Enrollment component. See *Digest of Education Statistics 2019*, [table 306.10](#).
- Valenzuela, A., & Dornbusch, S. M. (1994). Familism and social capital in the academic achievement of Mexican origin and Anglo adolescents. *Social Science Quarterly, 75*, 18-36.

- Van Haveren, R. A. (2000). Levels of career decidedness and negative career thinking by athletic status, gender, and academic class. *Dissertation Abstracts International*, 61, 3-B.
- Vela, J. C., Lenz, A. S., Sparrow, G. S., & Gonzalez, S. L. (2017). Using a positive psychology and family framework to understand Mexican American adolescents' college-going beliefs. *Hispanic Journal of Behavioral Sciences*, 39, 66–81.
<https://doi.org/10.1177/0739986316682717>
- Vela J. C., Lu M-T. P., Lenz A. S., & Hinojosa K. (2015). Positive psychology and familial factors as predictors of Latina/o students' psychological grit. *Hispanic Journal of Behavioral Sciences*, 37, 287-303. <https://doi:10.1177/0739986315588917>
- Villarreal, R., Blozis, S. A., & Widaman, K. F. (2005). Factorial invariance of a pan-Hispanic familism scale. *Hispanic Journal of Behavioral Sciences*, 27, 409–425.
<https://doi.org/10.1177/0739986305281125>
- Wilkins, N. J. (2009). *Family processes promoting achievement motivation and perceived school competence among Latino youth: A cultural ecological-transactional perspective* [Doctoral dissertation].
https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1043&context=psych_diss
- Xu, H., & Bhang, C. H. (2019). The structure and measurement of career indecision: A critical review. *The Career Development Quarterly*, 67, 2-20. <https://doi.org/10.1002/cdq.12159>

LIST OF APPENDICES

APPENDICES	PAGE
Appendix 1. IRB Approval Letter.....	111
Appendix 2. Information Sheet.....	113
Appendix 3. Recruitment for Instructors.....	116
Appendix 4. Script for Blackboard.....	118
Appendix 5. Demographic Questionnaire.....	119
Appendix 6. Career Maturity Inventory-Counseling Form C.....	120
Appendix 7. Academic Self-Concept Scale-Short Form.....	123
Appendix 8. Pan-Hispanic Familism Scale.....	125
Appendix 9. Achievement Motivation Measure.....	126
Appendix 10. Career Decision Scale.....	127

Appendix 1: IRB Approval Letter



TEXAS A&M UNIVERSITY
CORPUS CHRISTI

OFFICE OF RESEARCH COMPLIANCE
Division of Research and Innovation
6300 OCEAN DRIVE, UNIT 5844
CORPUS CHRISTI, TEXAS 78402
☎ 361.825.3497

Human Subjects Protection Program Institutional Review Board

DATE: February 27, 2020
TO: Joshua Watson, College of Education and Human Development
CC: Basilio Rodriguez, Student
FROM: Office of Research Compliance
SUBJECT: Exempt Determination

On February 27, 2020, the Texas A&M University-Corpus Christi Institutional Review Board reviewed the following submission:

Type of Review:	Exempt
Title:	Effects of Career Maturity, Academic Self-Concept, Familismo, and Achievement Motivation on Career Decision-Making with First-Year College Students
Principal Investigator:	Joshua Watson
IRB ID:	TAMU-CC-IRB-2020-02-017
Funding Source:	None
Documents Reviewed:	600.01 Form, Initial Submission Basilio Dissertation 800.01 Classroom Recruitment Script Final Basilio-1 Dissertation Information Sheet Basilio_comment CDS Purchase PAR INC Pan-Hispanic Familism Scale CMI_C_Master ASCS-SF Achievement Motivation Measure Recruitment email to Instructors Final FYE_student demo sheet Faculty Member Thank you letter CITI verification

Texas A&M University-Corpus Christi Institutional Review Board reviewed the project and based on the information provided has determined the research meets exempt category: 45 CFR 46.104(d)(2) (Research involving use of educational tests, survey procedures, interview procedures or observation of public behavior).

Therefore, this project has been determined to be exempt from IRB review. You may proceed with this project.

Reminder of Investigator Responsibilities: As principal investigator, you must ensure:

1. **Informed Consent:** Ensure informed consent processes are followed and information presented enables individuals to voluntarily decide whether to participate in research.
2. **Amendments:** This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. Any planned changes require an amendment to be submitted to the IRB to ensure that the research continues to meet criteria for exemption. The Amendment must be approved before being implemented.

3. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted.
4. **Records Retention:** All research related records must be retained for three (3) years beyond the completion date of the study in a secure location. At a minimum these documents include: the research protocol, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to participants, all correspondence to or from the IRB or Office of Research Compliance, and any other pertinent documents.
5. **Adverse Events:** Adverse events must be reported to the Research Compliance Office immediately.
6. **Post-approval monitoring:** Requested materials for post-approval monitoring must be provided by dates requested.

New IRB Number Format: In anticipation of software implementation in 2020, you have received an IRB number in the new format.

New IRB Number Format Explained



Please do not hesitate to contact the Office of Research Compliance with any questions at irb@tamucc.edu

Respectfully,

Matthew R. Gaynor, J.D.
Office of Research Compliance

Digitally signed by Matthew R. Gaynor, J.D.
Date: 2020.02.27 09:13:57 -0600

Appendix 2: Information Sheet

INFORMATION SHEET

Predictive Ability of Career Maturity, Academic Self-Concept, Familismo, and Achievement Motivation on Career Decision-Making with First-Year College Students

Introduction

The purpose of this form is to provide you information to help to make the decision on whether to participate in this research study.

Why is this research being done?

The goal of this research study is to examine the extent to which career maturity, academic self-concept, familismo, and achievement motivation predict career indecision among first-year college students.

Who can be in this study?

We are asking you to be a part of this research study because you are a first-year student. To be eligible to be in this study, you must:

- be over the age of 18 and
- be currently enrolled as a first-year student

What will I be asked to do?

Being in this study involves taking several surveys and a demographic questionnaire. If you agree to be in this study, you will be in this study for 20 minutes.

If you choose to be in this study, the following things will happen:

- You will be asked to not write your name on these surveys, complete the surveys and give them back to the researcher.
- You will be asked to answer some questions by filling out surveys on: demographics (i.e., age, sex, ethnicity, student status, academic load, living situation, working situation, and financial aid status.), career maturity, academic self-concept, familismo, achievement motivation, and career indecision.

What are the risks involved in this study?

This research involves minimal risks or risks that are no more than what you may experience in everyday life. The main risk may include:

- **Confidentiality risk:** Your participation will involve collecting information about you. There is a slight risk of loss of confidentiality. Your confidentiality will be protected to the greatest extent possible. You do not have to give any information to the study that you do not want to give.
- **Survey Questions:** Some questions may be embarrassing or uncomfortable to answer. Sample questions that you may be asked are: “My family members and I share similar values and beliefs.” or “I feel that I do not have the necessary abilities for certain courses in my major.” You do not have to answer questions you do not want to answer.

What outside assistance is available to me if I feel psychologically distressed?

You may contact the university's counseling center, if you are experiencing psychological distress. The number is 361.825.2703 (phone) for regular office hours or may call 361.825.2703 and press 2 to be connected to the emergency counselor for after hours. The contact information for a toll-free crisis hotline is (1-800-233-HELP).

What are the alternatives to being in this study?

Instead of being in this study, you may choose not to be in the research study.

What are the possible benefits of this study?

There may not be a direct benefit to you for being in this study. By being in this study, you may help researchers learn more about career decision-making with first-year college students in the future.

Do I have to participate?

No. **Being in a research study is voluntary.** If you choose not to participate, there will be no penalty or loss of benefits to which you are otherwise entitled.

What if I change my mind?

You may quit at any time. There will be no penalty or loss of benefits to which you are otherwise entitled.

You may decide not to participate or quit at any time without your current or future relations with Texas A&M University-Corpus Christi or any cooperating institution being affected.

Who will know about my participation in this research study?

This study is confidential.

When information collected about you includes identifiers (like names, addresses, phone numbers and social security or individual taxpayer identification (ITIN numbers), the study can involve confidential information.

All research records will be kept secretly. Research records will be seen only by authorized research team members. We will share your information only when we must, will only share the information that is needed, and will ask anyone who receives it from us to protect your privacy.

No identifiers linking you to this study will be included in any report that might be published or presented.

Who can I contact with questions about the research?

Dr. Joshua C. Watson is in charge of this research study. You may call Dr. Joshua C. Watson at (361) 825-2739 or email him at Joshua.watson@tamucc.edu with questions at any time during the study.

You may also contact Basilio Rodriguez at Basilio.rodriguez44@islander.tamucc.edu with any questions you may have.

Who can I contact about my rights as a research participant?

You may also call Texas A&M University-Corpus Christi Institutional Review Board (IRB) with questions or complaints about this study at irb@tamucc.edu or 361-825-2497. The IRB is a committee of faculty members, statisticians, researchers, community advocates, and others that ensures that a research study is ethical and that the rights of study participants are protected.

CONSENT TO PARTICIPATE

To participate in this research study, the researcher will read the classroom recruitment script and information sheet. I will then pass out the surveys. By filling out the surveys, you are agreeing to participate in the study. By participating in this study, you are also certifying that you are 18 years of age or older.

If you do not agree to participate in the research study, please do not fill out the surveys and turn in the blank surveys without anything filled in.

RECRUITMENT FOR INSTRUCTORS

To whom it may concern,

Hi, my name is Basilio Rodriguez and I am a doctoral candidate in the TAMU-CC Counselor Education program. I am conducting a study examining the degree to which career maturity, academic self-concept, familismo, and achievement motivation predict career decision-making among first-year college students. Since you are listed as the instructor of record for first-year students, I am requesting permission to collect data with your students via online participation.

Specifically, I am asking for consent to allow students to take a Qualtrics survey containing an information sheet, demographic questionnaire, and instruments.

https://tamucc.co1.qualtrics.com/jfe/form/SV_byns5cUaOx0SNPn

Participation takes approximately 20 minutes.

There are no known or anticipated risks to participation in this study. The questions asked are general. For example, “I am satisfied with the class assignments that I turn in.” and “My family members and I share similar values and beliefs.”

Participation in this study is voluntary. Students have the opportunity to discontinue their participation in the study at any time.

All information provided will be considered confidential and grouped with responses from other participants. Students will not be identified by name in any report or publication resulting from this study. The data collected through this study will be kept for a period of three years following completion of the study.

Thank you in advance if you decide to share my study opportunity with your students. I am hopeful to gather the data needed to begin the analysis phase this semester. If there is any mechanism in place in your class by which students might be incentivized to participate in my study, I would appreciate your support.

This study has been reviewed and approved through the Texas A&M University-Corpus Christi Institutional Research Board (IRB). If you have questions, you can contact them at 361-825-2497 or irb@tamucc.edu.

If you have further questions, please don't hesitate to contact me at brodriguez44@islander.tamucc.edu. Thank you!

Sincerely,

Basilio Rodriguez

Counselor Education Doctoral Candidate

Appendix 4: Script for Blackboard

SCRIPT FOR BLACKBOARD

Hi, I'm Basilio Rodriguez a doctoral candidate in the TAMU-CC Counselor Education Program. I am conducting a study examining the extent to which career maturity, academic self-concept, familismo, and achievement motivation predict career decision-making among first-year college students.

The study may help inform others about the needs of first-year students. Because you are first-year students, your opinions are important to this study.

Participation in this research study will involve answering survey questions and completing a demographic questionnaire in Qualtrics. Participation takes approximately 20 minutes.

There are no known or anticipated risks to your participation in this study. The questions asked are general. For example, "My family members and I share similar values and beliefs." or "I feel that I do not have the necessary abilities for certain courses in my major."

There may not be a direct benefit to you for being in this study.

Participation in this study is voluntary.

All information you provide will be considered confidential and grouped with responses from other participants. You will not be identified by name in any report or publication resulting from this study. The data collected through this study will be kept for a period of three years after the completion of the study.

You may withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

This study has been reviewed and approved through the Texas A&M University-Corpus Christi Institutional Research Board (IRB). If you have questions, you can contact them at 361-825-2497 or irb@tamucc.edu.

For all other questions, or if you would like additional information to assist you in reaching a decision about participation, please feel free to contact brodriguez44@islander.tamucc.edu.

If you agree to participate, please click on the link below:

https://tamucc.co1.qualtrics.com/jfe/form/SV_byns5cUaOx0SNPn

Thank you for your assistance with this project.

Sincerely,

Basilio Rodriguez

Appendix 5: Demographic Questionnaire

First-Year Students' Demographic Questionnaire

Please do not write your name on this form.

For the following items, please select the **one** response that is most descriptive of you.

Age: _____

Gender: (select one)

Male Female

Ethnicity: (select one)

African American Asian American Hispanic or Latino(a) Native American or Pacific Islander White, Non-Hispanic Biracial Other

Student Status: (select one)

First Generation
you are first person in family to attend college

Second Generation
parent(s) attended college

Third Generation
parents and grandparents attended college

Working Situation (select one):

Not currently employed

On-campus employment
(work study/assistantship)

Off-campus employment
(30+ hrs./week)

Off-campus employment (less than 30 hrs./week)

Financial Aid Status (select one):

Pell Grant

Student Loan

Scholarship

No financial aid

COVID-19 Pandemic Concerns (select one):

No

Yes

Appendix 6: Career Maturity Inventory-Counseling Form C

Career Maturity Inventory-Counseling Form C

Career Maturity Inventory — Form C

Name _____

Age _____ Circle one: Male or Female

DIRECTIONS

There are 24 statements about choosing the kind of job or work that you will probably do when you finish school. Read each statement. If you agree or mostly agree with it, then circle agree next to it. If you disagree or mostly disagree with it, then circle disagree next to it.

- | | | |
|---|-------|----------|
| 1. There is no point in deciding on a job when the future is so uncertain. | Agree | Disagree |
| 2. I know very little about the requirements of jobs. | Agree | Disagree |
| 3. I have so many interests that it is hard to choose just one occupation. | Agree | Disagree |
| 4. Choosing a job is something that you do on your own. | Agree | Disagree |
| 5. I can't seem to become very concerned about my future occupation. | Agree | Disagree |
| 6. I don't know how to go about getting into the kind of work I want to do. | Agree | Disagree |
| 7. Everyone seems to tell me something different; as a result I don't know what kind of work to choose. | Agree | Disagree |
| 8. If you have doubts about what you want to do, ask your parents or friends for advice. | Agree | Disagree |
| 9. I seldom think about the job that I want to enter. | Agree | Disagree |
| 10. I am having difficulty in preparing my self for the work that I want to do. | Agree | Disagree |

DIRECTIONS

If you agree or mostly agree with a statement, then mark agree next to it.
If you disagree or mostly disagree with it, then mark disagree next to it.

- | | | |
|---|-------|----------|
| 11. I keep changing my occupational choice. | Agree | Disagree |
| 12. When it comes to choosing a career, I will ask other people to help me. | Agree | Disagree |
| 13. I'm not going to worry about choosing an occupation until I am out of school. | Agree | Disagree |
| 14. I don't know what courses I should take in school. | Agree | Disagree |
| 15. I often daydream about what I want to be, but I really have not chosen an occupation yet. | Agree | Disagree |
| 16. I will choose my career without paying attention to the feelings of other people. | Agree | Disagree |
| 17. As far as choosing an occupation is concerned, something will come along sooner or later. | Agree | Disagree |
| 18. I don't know whether my occupational plans are realistic. | Agree | Disagree |
| 19. There are so many things to consider in choosing an occupation, it is hard to make a decision. | Agree | Disagree |
| 20. It is important to consult close friends and get their ideas before making an occupational choice. | Agree | Disagree |
| 21. I really can't find any work that has much appeal to me. | Agree | Disagree |
| 22. I keep wondering how I can reconcile the kind of person I am with the kind of person I want to be in my occupation. | Agree | Disagree |
| 23. I can't understand how some people can be so certain about what they want to do. | Agree | Disagree |
| 24. In making career choices, one should pay attention to the thoughts and feelings of family members. | Agree | Disagree |

CMI-C Scoring key

Response format = Agree (A) or Disagree (D)

Concern = 1 (D), 5 (D), 9(D), 13(D), 17(D), 21(D)
Curiosity = 2(D), 6(D), 10(D), 14(D), 18(D), 22(D)
Confidence = 3(D), 7(D), 11(D), 15(D), 19(D), 23(D)
Consultation = 4(D), 8(A), 12(A), 16(D), 20(A), 24(A)

Appendix 7: Academic Self-Concept Scale-Short Form

Academic Self-Concept Scale-Short Form



Department of Psychology

Dear Colleague:

Thank you for your interest in the *Academic Self-Concept Scale Short Form (ASCS-SF)*.

A copy of the 18-item ASCS Short Form is presented below. This form may be reproduced for use in your research. There is no charge for these materials and you may make as many copies as you need. However, I do ask that you do not disseminate copies of this scale to others. I also ask that you inform me if you decide to use the ASCS-SF in your research.

I would appreciate receiving copies of any reports/research papers you prepare that use the ASCS-SF. You will need to contact me for permission to modify the ASCS-SF or translate the ASCS-SF into another language.

To score the ASCS-SF, reverse score the following items: 1, 2, 3, 5, 6, 8, 10, 13, 14, 15, and 17, where, $SD=4$, $D=3$, $A=2$, $SA=1$. Sum the items, with a high score indicating a high or strong academic self-concept. To double check the scoring, it is advisable to enter the item data into the computer and run a reliability analysis checking the item-total scale correlations (all should be positive, with negative typically indicating an error in reverse scoring). The ASCS-SF uses 18 of the 40 items on the full scale ASCS, the latter reported in Reynolds (1988) "Measurement of academic self-concept in college students." *Journal of Personality Assessment*, 52, 223-240.

I am currently in the process of writing up the psychometric results on the ASCS-SF. For your information, with a sample of 467 college students an internal consistency reliability of .90 was found, with convergent validity demonstrated by relationships with GPA ($r = .49$), general self-concept ($r = .47$), procrastination ($r = -.46$), and discriminant validity shown by a low relationship with social desirability ($r = .21$).

If you have any questions please do not hesitate to contact me. I wish you well in your research endeavor.

Sincerely,

William M. Reynolds, Ph.D.
Professor
Department of Psychology
Humboldt State University
Arcata, California 95521
Tel: (707) 826-3162
Fax: (707) 826-4993
email: William.Reynolds@humboldt.edu

College Attitude Survey

Listed below are a number of statements concerning school-related attitudes. Rate each item as it pertains to you personally. Base your ratings on how you feel most of the time

	strongly disagree	disagree	agree	strongly agree
1. No matter how hard I try I don't do well in school.	1	2	3	4
2. I often expect to do poorly on exams.	1	2	3	4
3. In most of my courses, I feel that my classmates are better prepared than I am.	1	2	3	4
4. Others view me as intelligent.	1	2	3	4
5. I sometimes feel like quitting or dropping out of school.	1	2	3	4
6. Most of my classmates do better in school than I do.	1	2	3	4
7. Most of my instructors think that I am a good student.	1	2	3	4
8. At times I feel college is too difficult for me.	1	2	3	4
9. All in all, I am proud of my grades in college.	1	2	3	4
10. I feel teachers' standards are too high for me.	1	2	3	4
11. Others consider me a good student.	1	2	3	4
12. Most exams are easy for me.	1	2	3	4
13. I have a hard time getting through school.	1	2	3	4
14. I'd like to be a much better student than I am now.	1	2	3	4
15. I often get discouraged about my performance in school.	1	2	3	4
16. I consider myself a very good student.	1	2	3	4
17. I feel that I don't have the necessary abilities for certain courses in my major.	1	2	3	4
18. I feel that I am academically better than the average college student.	1	2	3	4

Copyright © 1981, 1988, 2010 by William M. Reynolds. All rights reserved.
This measure may not be reproduced in whole or in part or in any other form without written permission of the author.

Appendix 8: Pan-Hispanic Familism Scale

Pan-Hispanic Familism Scale

(items written in English and Spanish)

Please circle one of the following for each question.

1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*.

- | | |
|---|---------------|
| 1. My family is always there for me in times of need./Mi familia siempre está ahí cuando los necesito. | 1, 2, 3, 4, 5 |
| 2. I am proud of my family./Estoy orgulloso de mi familia. | 1, 2, 3, 4, 5 |
| 3. I cherish the time I spend with my family./Valoro el tiempo que paso con mi familia. | 1, 2, 3, 4, 5 |
| 4. I know my family has my best interests in mind./Sé que mi familia tiene en mente los mejores intereses para mi. | 1, 2, 3, 4, 5 |
| 5. My family members and I share similar values and beliefs./Los miembros de mi familia y yo compartimos valores y creencias similares. | 1, 2, 3, 4, 5 |

Appendix 9: Achievement Motivation Measure

Achievement Motivation Measure

	<u>Questions</u>	Response				
		Never A	Rarely B	Often C	Most of the time D	Always E
1	I feel that my present work is meaningful.	A	B	C	D	E
2	I have a strong desire to be a success in the things I set out to do.	A	B	C	D	E
3	When proceeding on a difficult task, I think of all the resources available to me to successfully complete the task.	A	B	C	D	E
4	I try to follow the rule: Business before pleasure.	A	B	C	D	E
5	I can keep my mind on a task for a long time.	A	B	C	D	E
		Never	Rarely	often	Most of the time	Always
6	I would rather work with an expert in the field than with a friend or someone I know.	A	B	C	D	E
7	In most projects I would rather take personal responsibility for completion than be only a contributor.	A	B	C	D	E
8	I like to undertake projects that involve some risk.	A	B	C	D	E
9	When working on a committee, I like to see efficiently.	A	B	C	D	E
10	I prefer to know how I am progressing by obtaining concrete feedback when working at a task.	A	B	C	D	E
11	Despite the uncertainty of the future, it pays to make plans.	A	B	C	D	E
12	While working on a task, I think of how it will feel when the task is successfully completed.	A	B	C	D	E
13	I like to know how I am performing when working on a task.	A	B	C	D	E

R.L. Smith AMMeasure

(Please respond to each item by circling a letter)

Copyright © 2019 – National Credentialing Academy All rights reserved

Appendix 10: Career Decision Scale

Career Decision Scale

(Intentionally Left Blank - Copyright)